```
=> fil reg
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STRUCTURE FILE UPDATES:   15 OCT 2009  HIGHEST RN 1188475-73-1
DICTIONARY FILE UPDATES:  15 OCT 2009  HIGHEST RN 1188475-73-1

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=> fil hcap
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FILE COVERS 1907 - 16 Oct 2009  VOL 151 ISS 17
FILE LAST UPDATED: 15 Oct 2009  (20091015/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Aug 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate
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=> d que l29
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L2              QUE  SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR BLACK?)
                 OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L3         22554 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  CHARCOAL+PFT,NT/CT

L4         11047 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "SOIL MICROORGANIS
                 M"+PFT,NT/CT
L5            21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L2 OR L3) AND L4

L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                 CRO ORGANISM? OR MICROORGANISM?
L7            21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L5 AND L6
L9            16 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L7 AND FERTILI?/SC
                 ,SX
L10          523 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L2 OR L3) AND L6

L11           48 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L10 AND FERTILIZ?

L12           41 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L11 AND FERTILIZ?/
                 SC,SX
L13           54 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L9 OR L12
L15            1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  7723-14-0/RN
L16       210571 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L15
L18          952 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  CHARCOAL? AND (L4
                 OR L6)
L22           30 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L18 AND (L16 OR
                 PHOSPHORUS# OR PHOSPHOROUS#)
L23            8 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L13 AND (L16 OR
                 PHOSPHORUS# OR PHOSPHOROUS#)
L24           30 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L22 OR L23)
L25           13 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND  FERTILIZ?
                 /SC,SX
L27            9 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND FERTILIZ?

L28            7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND  AGR/RL
L29           15 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L25 OR L27 OR L28



=> fil wpix
FILE 'WPIX' ENTERED AT 16:08:08 ON 16 OCT 2009
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FILE LAST UPDATED:          12 OCT 2009   <20091012/UP>
MOST RECENT UPDATE:           200965      <200965/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE
>>> Now containing more than 1.4 million chemical structures in DCR <<<

>>> IPC, ECLA, US National Classifications and Japanese F-Terms
    and FI-Terms have been updated with reclassifications to
    mid-June 2009.
    No update date (UP) has been created for the reclassified
    documents, but they can be identified by
    specific update codes (see HELP CLA for details)<<<

FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
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http://scientific.thomsonreuters.com/support/patents/coverage/latestupdates/
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http://www.stn-international.com/DWPIAnaVist2_0608.html

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO <<<

=> d que l37
L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                CRO ORGANISM? OR MICROORGANISM?
L30         303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31       23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32         436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                (PHOSPHORUS# OR PHOSPHOROUS#)
L33          42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34          12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36           5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                C
L37          17 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> fil agricola
FILE 'AGRICOLA' ENTERED AT 16:08:19 ON 16 OCT 2009


FILE COVERS 1970 TO 7 Oct 2009 (20091007/ED)

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=> d que l38
L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                CRO ORGANISM? OR MICROORGANISM?
L30         303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31       23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32         436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                (PHOSPHORUS# OR PHOSPHOROUS#)
L33          42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34          12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36           5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                C
L38           2 SEA FILE=AGRICOLA SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> fil japio
FILE 'JAPIO' ENTERED AT 16:08:28 ON 16 OCT 2009
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FILE LAST UPDATED:            30 SEP 2009       <20090930/UP>
MOST RECENT PUBLICATION DATE: 25 JUN 2009       <20090625/PD>
>>> GRAPHIC IMAGES AVAILABLE <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION (SLART) IS AVAILABLE
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=> d que l39
L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                CRO ORGANISM? OR MICROORGANISM?
L30         303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31       23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32         436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                (PHOSPHORUS# OR PHOSPHOROUS#)
L33          42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34          12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36           5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                C
L39           0 SEA FILE=JAPIO SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> fil pascal
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FILE COVERS 1977 TO DATE.

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    IN THE BASIC INDEX (/BI) FIELD  <<<

=> d que l40
L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                CRO ORGANISM? OR MICROORGANISM?
L30         303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31       23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32         436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                (PHOSPHORUS# OR PHOSPHOROUS#)
L33          42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34          12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36           5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                C
L40           0 SEA FILE=PASCAL SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> fil scisearch
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FILE COVERS 1974 TO 15 Oct 2009 (20091015/ED)

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=> d que l41
L6              QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                CRO ORGANISM? OR MICROORGANISM?
L30         303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31       23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32         436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
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                (PHOSPHORUS# OR PHOSPHOROUS#)
L33           42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34           12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36            5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                C
L41            1 SEA FILE=SCISEARCH SPE=ON  ABB=ON  PLU=ON  L34 OR L36


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FILE COVERS 1926 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
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=> d que l42
L6               QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                 CRO ORGANISM? OR MICROORGANISM?
L30          303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                 BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31        23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32          436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                 (PHOSPHORUS# OR PHOSPHOROUS#)
L33           42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34           12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36            5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                 C
L42            5 SEA FILE=BIOSIS SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> fil biotechno
FILE 'BIOTECHNO' ENTERED AT 16:09:09 ON 16 OCT 2009
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FILE COVERS 1980 TO 2003.
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=> d que l43
L6               QUE  SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR MI
                 CRO ORGANISM? OR MICROORGANISM?
L30          303 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR
                 BLACK?) OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31        23338 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32          436 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND
                 (PHOSPHORUS# OR PHOSPHOROUS#)
L33           42 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34           12 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L36            5 SEA FILE=WPIX SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IP
                 C
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L43           0 SEA FILE=BIOTECHNO SPE=ON  ABB=ON  PLU=ON  L34 OR L36


=> dup rem l29 l37 l38 l39 l40 l41 l42 l43
L39 HAS NO ANSWERS
L40 HAS NO ANSWERS
L43 HAS NO ANSWERS
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PROCESSING COMPLETED FOR L37
PROCESSING COMPLETED FOR L38
PROCESSING COMPLETED FOR L39
PROCESSING COMPLETED FOR L40
PROCESSING COMPLETED FOR L41
PROCESSING COMPLETED FOR L42
PROCESSING COMPLETED FOR L43
L44          33 DUP REM L29 L37 L38 L39 L40 L41 L42 L43 (7 DUPLICATES REMOVE
D)
               ANSWERS '1-15' FROM FILE HCAPLUS
               ANSWERS '16-28' FROM FILE WPIX
               ANSWERS '29-30' FROM FILE AGRICOLA
               ANSWERS '31-33' FROM FILE BIOSIS

=> d 1-15 ibib ed abs hitstr hitind

L44  ANSWER 1 OF 33  HCAPLUS  COPYRIGHT 2009 ACS on STN DUPLICATE 1
ACCESSION NUMBER:        2009:206118  HCAPLUS  Full-text
DOCUMENT NUMBER:         150:213394
TITLE:                   Method for the production of humus- and
                         nutrient-rich and water-storing soils or soil
                         substrates for sustainable land use and
                         development systems
INVENTOR(S):             Boettcher, Joachim; Pieplow, Haiko; Krieger,
                         Alfons-Eduard
PATENT ASSIGNEE(S):      Germany
SOURCE:                  PCT Int. Appl., 34pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                German
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ----------------    ----   --------    --------------------    --------
     WO 2009021528        A1    20090219    WO 2007-EP7084          20070810
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
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CA, CH, CN, CO, CR, CU, CZ, DK, DM, DO, DZ, EC, EE, EG, ES,
FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY,
MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM,
SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA,
ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK,
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: WO 2007-EP7084 20070810

ED Entered STN: 20 Feb 2009

AB The present invention relates to a method for the production of stable humus- and nutrient-rich and water-storing soil substrates with properties of anthropogenic soil types (Terra Preta) in which pyrogenic carbon, organic biomass, and/or natural mineral materials are used as initial materials in a fermentation process. The soil produced or treated according to the invention leads to a sustainably high soil yield such that mineral fertilizers are no longer needed for agricultural use. Moreover, the soil is suitable for use as a soil substitute, for use as a soil supplement, for greening developments, for preventing erosion, for improving regional water supplies, for preventing floods, for preventing climate change, for reducing carbon dioxide content in the atmospheric, for wastewater cleaning and treatment, for exhaust air cleaning and building air purification, for creating material flow cycles from biogenic waste and/or wastewater in order to develop and utilize land use and development systems.

IT 7723-14-0, Phosphorus, biological studies
(production of humus- and nutrient-rich soil substrates for sustainable land use and development systems by fermentation of pyrogenic carbon and biomass with addition of)

RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

CC 19-6 (Fertilizers, Soils, and Plant Nutrition)
Section cross-reference(s): 16, 59, 60

IT Microorganism
(anaerobic; production of humus- and nutrient-rich soil substrates for sustainable land use by fermentation of pyrogenic carbon and biomass with starter culture)

IT Charcoal
(production of humus- and nutrient-rich and water-storing soil substrates for sustainable land use and development systems by fermentation of pyrogenic carbon and biomass)

IT Clays, biological studies
Fertilizers
Lime (chemical)
(production of humus- and nutrient-rich soil substrates for sustainable land use and development systems by fermentation of pyrogenic carbon and biomass with addition of)

IT 57-13-6, Urea, biological studies 7440-09-7, Potassium, biological studies 7723-14-0, Phosphorus, biological

studies 7727-37-9, Nitrogen, biological studies
(production of humus- and nutrient-rich soil substrates for sustainable land use and development systems by fermentation of pyrogenic carbon and biomass with addition of)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2008:381495 HCAPLUS Full-text
DOCUMENT NUMBER: 148:383057
TITLE: Methods and apparatus for stimulating and managing power from microbial fuel cells
INVENTOR(S): Girguis, Peter Riad; Kauffman, Peter Carr
PATENT ASSIGNEE(S): Harvard College, USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008036347	A2	20080327	WO 2007-US20357	20070920
WO 2008036347	A9	20081218		
WO 2008036347	A3	20090604		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA				
EP 2078321	A2	20090715	EP 2007-838547	20070920
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.:

US 2006-845921P	P	20060920
US 2007-914025P	P	20070425
US 2007-914108P	P	20070426
WO 2007-US20357	W	20070920

ED Entered STN: 28 Mar 2008

AB Inventive aspects of the present disclosure generally relates to fuel cells and, in particular, to fuel cells that can use microorganisms (microbes) to oxidize fuel. Certain aspects are directed to fuel cells that operate at relatively elevated temps. Such temps., for example, can increase the metabs. of the microorganisms within the fuel cell. The elevated temps. may be achieved, for instance, by using a thermal insulator, such as a vacuum jacket. Microorganism metabolism may also be improved, in some aspects of the

invention, by exposing the microorganisms to growth promoters such as fertilizer , nitrogen sources, biomass, etc. The microorganisms, in some embodiments of the invention, may be anaerobic or microaerophilic and can be obtained, for example, from the soil, compost, peat, sewage, bogs, wastewater, or other organic-rich matrixes. Another inventive aspect relates to novel electrodes for use in fuel cells, such as microbial fuel cells. The electrode, in some cases, may be flexible and/or porous. In certain embodiments, the electrode may be treated, e.g., with acid and/or biomass, to improve performance. Such treatments may facilitate microorganism metabolism Yet another inventive aspect relates to a proton exchange interface between an anode and a cathode in a fuel cell, such as a microbial fuel cell. The proton exchange interface may be designed to allow protons and/or gases to pass through, but, in some cases, minimizes or eliminates mixing between the anode and the cathode. Still another inventive aspect generally relates to an energy management system for use with such fuel cells, including microbial fuel cells. Yet another aspect relates to switching systems that allow a plurality of fuel cells (which may be housed in one vessel or sep. vessels) to sustain net power output that is greater than the sum of the individual microbial fuel cells under constant load. In some cases, the energy management system can store and manage energy from the fuel cell such that conventional operating voltages may be provided to a variety of loads having various instantaneous and average power requirements. Other inventive aspects relate to techniques for forming such fuel cells and fuel cell components, techniques for using such fuel cells, systems involving such fuel cells, and the like.

IT 7723-14-0, Phosphorus, uses
(methods and apparatus for stimulating and managing power from microbial fuel cells)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

IC ICM H01M
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 10, 76
ST microbial fuel cell power management
IT Charcoal
(activated; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Microorganism
(anaerobic; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Wastes
(animal; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Fuel cells
(biochem. fuel cells; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Coating materials
(elec. conductive; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Paints
(graphite-containing; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Dendrimers

(metal; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Biomass
Ceramics
Compost
Electron acceptors
Electron transfer
Manure
Nanowires
Porosity
Secondary batteries
Thermal insulators
Yeast
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Noble metals
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Amino acids
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Fertilizers
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Glass
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Glass fibers
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Lime (chemical)
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Metals
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Nitrates
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Nitrites
(methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Eubacteria
(microaerophilic; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Computers
(microprocessors; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Polymers
(nonconducting; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Textiles
(nonconductive; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Capacitors
(supercapacitors; methods and apparatus for stimulating and managing power from microbial fuel cells)
IT Containers
(vacuum flasks; methods and apparatus for stimulating and managing power from microbial fuel cells)

IT 7440-09-7, Potassium, uses 7664-38-2, Phosphoric acid, uses
7664-41-7, Ammonia, uses 7664-93-9, Sulfuric acid, uses
7723-14-0, Phosphorus, uses 7727-37-9, Nitrogen,
uses 7782-42-5, Graphite, uses 9002-86-2, Polyvinyl chloride
(methods and apparatus for stimulating and managing power from
microbial fuel cells)
IT 7631-86-9, Silica, uses 14808-60-7, Quartz, uses
(particles; methods and apparatus for stimulating and managing power
from microbial fuel cells)

L44 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2008:663216 HCAPLUS Full-text
DOCUMENT NUMBER: 150:305750
TITLE: Charcoal and smoke extract stimulate the soil microbial community in a highly weathered xanthic ferralsol
AUTHOR(S): Steiner, Christoph; Das, Keshav C.; Garcia, Marcos; Foerster, Bernhard; Zech, Wolfgang
CORPORATE SOURCE: Institute of Soil Science and Soil Geography, University of Bayreuth, Bayreuth, 95440, Germany
SOURCE: Pedobiologia (2008), Volume Date 2007-2008, 51(5-6), 359-366
CODEN: PDBLAM; ISSN: 0031-4056
PUBLISHER: Elsevier GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Jun 2008
AB The influence of charcoal and smoke condensates (pyroligneous acid, PA) on microbial activity in a highly weathered Amazonian upland soil was assessed via measurements of basal respiration (BR), substrate-induced respiration (SIR), and exponential population increase after substrate addition PA exts. are commonly used for fertilizer or as pest control in Brazil, where phosphorus (P) availability and nitrogen (N) leaching are among the most severe limitations for agriculture. Microbes play an important role in nutrient cycling and solubilizing of phosphate. BR, microbial biomass, population growth and the microbe's efficiency (expressed by the metabolic quotient) increased linearly and significantly with increasing charcoal concns. (50, 100 and 150 g kg-1 soil). Application of PA caused a sharp increase in all parameters. We suppose that the condensates from smoke contain easily degradable substances and only small amts. of inhibitory agents, which could be utilized by the microbes for their metabolism
IT 7723-14-0, Phosphorus, biological studies
(charcoal and smoke extract stimulate the soil
microbial community in highly weathered xanthic ferralsol)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

CC 19-3 (Fertilizers, Soils, and Plant Nutrition)
Section cross-reference(s): 10
ST charcoal smoke pyroligneous acid soil microorganism
IT Soils
(Ferralsols; charcoal and smoke extract stimulate the soil
microbial community in highly weathered xanthic ferralsol)
IT Manure

Soil acidity
Soil amendments
Soil erosion
Soil microorganism
Soil respiration
(charcoal and smoke extract stimulate the soil microbial community in highly weathered xanthic ferralsol)

IT Kaolin, biological studies
Pyroligneous acids
(charcoal and smoke extract stimulate the soil microbial community in highly weathered xanthic ferralsol)

IT Charcoal
(smoke; charcoal and smoke extract stimulate the soil microbial community in highly weathered xanthic ferralsol)

IT 50-99-7, Glucose, biological studies 7439-95-4, Magnesium, biological studies 7440-09-7, Potassium, biological studies 7440-44-0, Carbon, biological studies 7440-70-2, Calcium, biological studies 7723-14-0, Phosphorus, biological studies 7727-37-9, Nitrogen, biological studies
(charcoal and smoke extract stimulate the soil microbial community in highly weathered xanthic ferralsol)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 2004:1154552 HCAPLUS Full-text
DOCUMENT NUMBER: 142:37632
TITLE: Microbial inoculants on carbonized charcoal carrier for soil treatment
INVENTOR(S): Someus, Edward
PATENT ASSIGNEE(S): Hung.
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004112462	A1	20041229	WO 2004-HU63	20040623
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1641333	A1	20060405	EP 2004-743722	20040623
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
US 20060243011	A1	20061102	US 2006-560596	20060630
PRIORITY APPLN. INFO.:			HU 2003-1909 A	20030623

WO 2004-HU63 W 20040623

ED Entered STN: 30 Dec 2004

AB The scope of invention is a solid-carrier-based microbial inoculant applied for natural phosphorus supply of plants, biol. control of soil-borne plant pathogens, biol. degradation of organic contaminants and soil life and fertility improvement. The solid carrier containing phosphorus is made of animal bone charcoal, and has a grain size of 0,001-10 mm and pore size of 10-60,000 nm. It is , macroporously structured. The specific area is 1-500 m2/g, and the external and/or internal surface and/or internal pores are biol.-actively colonized with soil microorganisms. The inoculant is produced from animal bone by carbonization over 300°C core temperature, followed by cooling to <50°C core temperature, then the microbial inoculants, produced by conventional liquid phase fermentation, are introduced on resulting in microbiol. colonization. Subsequently the water content of the product is decreased to achieve long-time storage for preserving the viability of the microorganisms. Before field introduction, the microorganisms are activated by water and/or nutrient additives.

IT 7723-14-0, Phosphorus, biological studies
(supply; microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

IC ICM A01G001-04
ICS A01N063-00; C12N011-14

CC 19-6 (Fertilizers, Soils, and Plant Nutrition)
Section cross-reference(s): 5

ST microbial inoculants carbonized charcoal carrier soil treatment

IT Charcoal
(animal bone, carbonized; microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

IT Soil reclamation
(decontamination; by microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

IT Soil fertility
(improvement; microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

IT Soil microorganism
Soils
Streptomyces griseoviridis
(microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

IT Sterilization and Disinfection
(soil; by microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

IT 7723-14-0, Phosphorus, biological studies
(supply; microbial inoculants on carbonized animal bone charcoal carrier for soil treatment)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN DUPLICATE 5
ACCESSION NUMBER: 2004:933731 HCAPLUS Full-text
DOCUMENT NUMBER: 142:197252
TITLE: Fertilizer for organic agricultural products
INVENTOR(S): Back, Iee Nam
PATENT ASSIGNEE(S): S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2002084971	A	20021116	KR 2001-24123	20010503
PRIORITY APPLN. INFO.:			KR 2001-24123	20010503

ED Entered STN: 06 Nov 2004
AB A fertilizer for organic agricultural products using minerals, P and K-contained materials, and orgs. (shell, microbes, amino acids, etc.), excluding chemical components, is provided to hasten harvest, give resistance to harmful insects, and freezing-cold, and improve sweetness, flavor, taste of products. The fertilizer comprises the components of: minerals composed of SiO2 and Al2O3 as main components, sintered (at 600°C) minerals such as quartz porphyry, jade, yellow earth, germanium, etc., which hastens growth of crops; natural phosphoric acid such as phosphate, calcium phosphate or bone; natural kalium (K) like ash generated from burning plants; orgs. such as CaCO3, shell, rice hull, charcoal and microbes and amino acids. The fertilizer is produced by mixing minerals or sintered minerals, natural P-component, natural K-component, orgs. in a weight ratio of 5-50, each.
IT 7723-14-0, Phosphorus, biological studies
(fertilizer for organic agricultural products)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

IC ICM C05G001-00
CC 19-6 (Fertilizers, Soils, and Plant Nutrition)
ST fertilizer mineral shell microorganism amino acid
IT Bone
Crop (plant)
Microorganism
Shell
(fertilizer for organic agricultural products)
IT Amino acids, biological studies
Charcoal
Mineral elements, biological studies
Minerals, biological studies
Porphyry

(fertilizer for organic agricultural products)
IT Fertilizers
(fertilizer for organic agricultural products)
IT Oryza sativa
(husk; fertilizer for organic agricultural products)
IT Chaff
(rice husk; fertilizer for organic agricultural products)
IT Soils
(yellow; fertilizer for organic agricultural products)
IT 471-34-1, Calcium carbonate (CaCO3), biological studies 1344-28-1, Alumina, biological studies 7440-09-7, Potassium, biological studies 7440-56-4, Germanium, biological studies 7631-86-9, Silica, biological studies 7723-14-0, Phosphorus, biological studies 10103-46-5, Calcium phosphate 12601-21-7, Jade 14265-44-2, Phosphate, biological studies
(fertilizer for organic agricultural products)

L44 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:518153 HCAPLUS Full-text
DOCUMENT NUMBER: 149:431644
TITLE: Slow pyrolysis of poultry litter and pine woody biomass: Impact of chars and bio-oils on microbial growth
AUTHOR(S): Das, K. C.; Garcia-perez, M.; Bibens, B.; Melear, N.
CORPORATE SOURCE: Department of Biological and Agricultural Engineering, University of Georgia, Athens, GA, USA
SOURCE: Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering (2008), 43(7), 714-724
CODEN: JATEF9; ISSN: 1093-4529
PUBLISHER: Taylor & Francis, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 29 Apr 2008
AB Accidental or prescribed fires in forests and in cultivated fields, as well as primitive charcoal production practices, are responsible for the release of large amts. of gases, char and condensable organic mols. into the environment. This paper describes the impact of condensable organic mols. and chars resulting from the slow pyrolysis of poultry litter, pine chips and pine pellets on the growth of microbial populations in soil and water. The proximate and elemental analyses as well as the content of proteins, cellulose, hemicellulose, lignin, and ash for each of these bio-materials are reported. The yields and some properties of char and condensable liqs. are also documented. The behavior of microbial populations in soil and water is followed through respiration studies. It was found that biol. activity was highest when aqueous fractions from poultry litter were applied in water. Cumulative O consumption over a 120-h period was highest in the aqueous phases from poultry litter coarse fraction (1.82 mg/g). On average the O consumption when oily fractions from poultry litter were applied represented 44-62% of that when aqueous fractions were applied. Pine chip and pine pellet derived liqs. and chars produced respiration activity that were an order of magnitude lower than that of poultry litter liquid fractions. These results suggest that the growth observed is due to the effect of protein-derived mols.
IT 7723-14-0, Phosphorus, biological studies
(in wood; slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

CC 60-4 (Waste Treatment and Disposal)
Section cross-reference(s): 19, 61
ST slow pyrolysis poultry litter pine woody biomass char biooil; pyrolysis poultry litter pine woody biomass char biooil microbe
IT Fire
Forests
(forest fire; slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
IT Ashes (residues)
Chars
Manure
Pinus
Soil pollution
Water pollution
(slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
IT Proteins
(slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
IT Charcoal
(slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
IT 7429-90-5, Aluminum, biological studies 7439-89-6, Iron, biological studies 7439-92-1, Lead, biological studies 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7439-98-7, Molybdenum, biological studies 7440-02-0, Nickel, biological studies 7440-09-7, Potassium, biological studies 7440-21-3, Silicon, biological studies 7440-23-5, Sodium, biological studies 7440-42-8, Boron, biological studies 7440-43-9, Cadmium, biological studies 7440-47-3, Chromium, biological studies 7440-50-8, Copper, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies 7723-14-0, Phosphorus, biological studies
(in wood; slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
IT 9004-34-6, Cellulose, miscellaneous 9005-53-2, Lignin, miscellaneous 9034-32-6, Hemicellulose
(slow pyrolysis of poultry litter and pine woody biomass and effect of chars and bio-oils on microbial growth)
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:590931 HCAPLUS Full-text
DOCUMENT NUMBER: 147:72114
TITLE: Organic matter-improved drought-resistant nitrogen-fixing fertilizer
INVENTOR(S): Xiong, Fengbao
PATENT ASSIGNEE(S): Xiong Fengbao, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.

CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1970505	A	20070530	CN 2006-10105144	20061211
CN 100400474	C	20080709		
PRIORITY APPLN. INFO.:			CN 2006-10105144	20061211

ED Entered STN: 01 Jun 2007
AB The title organic matter-improved drought-resistant nitrogen-fixing fertilizer is manufactured by ball-milling and mixing (by weight parts) bituminous coal 10-60, charcoal 1-5, and charred straw 35-85. The fertilizer can increase capillary porous soil and water, make full use of rainfall, fully absorb soil water and free nitrogen and ammonia in the soil as well as toxic gases such as chlorine and carbon dioxide and chemical residues, renew soil air, raise oxygen content, promote plant root system to respire and develop, improve microbial surrounding, propagate microorganism to remove the pollution caused by fertilizer, and protect, reduce or eliminate the evaporation of surface water, so as to realize water regulation, drought resistance, and nitrogen, phosphorous and potassium fixation.
CC 19-6 (Fertilizers, Soils, and Plant Nutrition)
ST bituminous coal charcoal straw drought resistance nitrogen fixing fertilizer
IT Straw
(charred; organic matter-improved drought-resistant nitrogen-fixing fertilizer)
IT Fertilizers
(nitrogen-fixing; organic matter-improved drought-resistant nitrogen-fixing fertilizer)
IT Corn
Triticum aestivum
Wheat
Zea mays
(organic matter-improved drought-resistant nitrogen-fixing fertilizer)
IT Bituminous coal
Charcoal
(organic matter-improved drought-resistant nitrogen-fixing fertilizer)

L44 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:1335277 HCAPLUS Full-text
DOCUMENT NUMBER: 144:65954
TITLE: Wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their commercial uses
INVENTOR(S): Short, Jay M.; Kretz, Keith A.; Gray, Kevin A.; Barton, Nelson Robert; Garrett, James B.; O'Donoghue, Eileen; Baum, William; Robertson, Dan E.; Zorner, Paul
PATENT ASSIGNEE(S): Diversa Corp., USA
SOURCE: U.S. Pat. Appl. Publ., 82 pp., Cont.-in-part of U.S. Ser. No. 866,379.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050281792	A1	20051222	US 2004-933115	20040901
US 7432097	B2	20081007		
US 5876997	A	19990302	US 1997-910798	19970813
CA 2565314	A1	19990225	CA 1998-2565314	19980813
EP 1600505	A1	20051130	EP 2005-13009	19980813
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
EP 1811020	A1	20070725	EP 2006-76958	19980813
R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 6110719	A	20000829	US 1999-259214	19990301
US 6190897	B1	20010220	US 1999-291931	19990413
US 6183740	B1	20010206	US 1999-318528	19990525
US 6720014	B1	20040413	US 2000-580515	20000525
US 20020136754	A1	20020926	US 2001-866379	20010524
US 6855365	B2	20050215		
AU 2004205269	A1	20040923	AU 2004-205269	20040826
AU 2004205269	B2	20070621		
AU 2005283021	A1	20060316	AU 2005-283021	20050818
CA 2578988	A1	20060316	CA 2005-2578988	20050818
WO 2006028684	A2	20060316	WO 2005-US29621	20050818
WO 2006028684	A3	20090409		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA				
JP 2008099701	A	20080501	JP 2007-301260	20071121

PRIORITY APPLN. INFO.:		
US 1997-910798	A3	19970813
US 1999-259214	A1	19990301
US 1999-291931	A2	19990413
US 1999-318528	A2	19990525
US 2000-580515	A2	20000525
US 2001-866379	A2	20010524
CA 1998-2300358	A3	19980813
EP 1998-940861	A3	19980813
JP 2000-509297	A3	19980813
AU 2001-78247	A3	20011005

US 2004-933115 A 20040901

WO 2005-US29621 W 20050818

ED Entered STN: 23 Dec 2005

AB In one aspect, the invention provides a purified and modified phytase enzyme from Escherichia coli K12 appA phytase. The modified enzyme comprises 8 amino acid substitutions (W68E/Q84W/A95P/K97C/S168E/R181Y/N226C/Y277D) and has phytase activity and improved thermal tolerance as compared with the wild-type enzyme. In addition, the enzyme has improved protease stability at low pH. Glycosylation of the modified phytase provides a further improved enzyme having improved thermal tolerance and protease stability. The enzyme can be produced from native or recombinant host cells and can be used to aid in the digestion of phytate where desired. In one aspect, the phytase of the present invention can be used in foodstuffs to improve the feeding value of phytate-rich ingredients.

IT 7723-14-0, Phosphorus, biological studies
(formulation containing; wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their com. uses)

RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

IC ICM A61K045-00
ICS C12N009-16; A61K038-46

INCL 424093450; 424094600

CC 7-2 (Enzymes)
Section cross-reference(s): 1, 3, 9, 10, 17, 19

IT Gene, microbial
(appA; wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their com. uses)

IT Carotenes, biological studies
Charcoal
Diatomite
Lecithins
Peanut oil
Plant fibers
Safflower oil
Soybean oil
Vitamins
(formulation containing; wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their com. uses)

IT Fertilizers
(wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their com. uses)

IT 50-14-6, Vitamin D2 50-81-7, Vitamin C, biological studies 50-99-7, D-Glucose, biological studies 52-90-4, L-Cysteine, biological studies 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-84-8, L-Aspartic acid, biological studies 56-85-9, L-Glutamine, biological studies 56-86-0, L-Glutamic acid, biological studies 56-87-1, L-Lysine, biological studies 58-85-5, Biotin 59-30-3, Folic acid, biological studies 59-43-8, Thiamin, biological studies 59-67-6, Nicotinic acid, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, L-Leucine, biological studies 62-49-7,

Choline 63-68-3, L-Methionine, biological studies 63-91-2, L-Phenylalanine, biological studies 65-23-6, Pyridoxine 67-97-0, Vitamin D3 68-19-9, Cyanocobalamin 70-47-3, L-Asparagine, biological studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-22-3, L-Tryptophan, biological studies 73-31-4, Melatonin 73-32-5, L-Isoleucine, biological studies 74-79-3, L-Arginine, biological studies 79-83-4, Pantothenic acid 83-88-5, Riboflavin, biological studies 87-89-8, Inositol 107-35-7, Taurine 117-39-5, Quercitin 147-85-3, L-Proline, biological studies 150-13-0, PABA 303-98-0, Coenzyme Q10 520-91-2, Vitamin D1 1200-22-2, α-Lipoic acid 1340-08-5, Vitamin P 1406-16-2, Vitamin D 1406-18-4, Vitamin E 3416-24-8, Glucosamine 7235-40-7, β-Carotene 7429-90-5, Aluminum, biological studies 7429-91-6, Dysprosium, biological studies 7439-88-5, Iridium, biological studies 7439-89-6, Iron, biological studies 7439-91-0, Lanthanum, biological studies 7439-93-2, Lithium, biological studies 7439-94-3, Lutetium, biological studies 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7439-98-7, Molybdenum, biological studies 7440-00-8, Neodymium, biological studies 7440-02-0, Nickel, biological studies 7440-03-1, Niobium, biological studies 7440-04-2, Osmium, biological studies 7440-05-3, Palladium, biological studies 7440-06-4, Platinum, biological studies 7440-09-7, Potassium, biological studies 7440-10-0, Praseodymium, biological studies 7440-12-2, Promethium, biological studies 7440-15-5, Rhenium, biological studies 7440-16-6, Rhodium, biological studies 7440-17-7, Rubidium, biological studies 7440-18-8, Ruthenium, biological studies 7440-19-9, Samarium, biological studies 7440-20-2, Scandium, biological studies 7440-21-3, Silicon, biological studies 7440-22-4, Silver, biological studies 7440-23-5, Sodium, biological studies 7440-24-6, Strontium, biological studies 7440-25-7, Tantalum, biological studies 7440-27-9, Terbium, biological studies 7440-29-1, Thorium, biological studies 7440-30-4, Thulium, biological studies 7440-31-5, Tin, biological studies 7440-32-6, Titanium, biological studies 7440-33-7, Tungsten, biological studies 7440-36-0, Antimony, biological studies 7440-39-3, Barium, biological studies 7440-41-7, Beryllium, biological studies 7440-42-8, Boron, biological studies 7440-43-9, Cadmium, biological studies 7440-45-1, Cerium, biological studies 7440-46-2, Cesium, biological studies 7440-47-3, Chromium, biological studies 7440-48-4, Cobalt, biological studies 7440-50-8, Copper, biological studies 7440-52-0, Erbium, biological studies 7440-53-1, Europium, biological studies 7440-54-2, Gadolinium, biological studies 7440-55-3, Gallium, biological studies 7440-56-4, Germanium, biological studies 7440-57-5, Gold, biological studies 7440-58-6, Hafnium, biological studies 7440-60-0, Holmium, biological studies 7440-62-2, Vanadium, biological studies 7440-64-4, Ytterbium, biological studies 7440-65-5, Yttrium, biological studies 7440-66-6, Zinc, biological studies 7440-67-7, Zirconium, biological studies 7440-69-9, Bismuth, biological studies 7440-70-2, Calcium, biological studies 7440-74-6, Indium, biological studies 7553-56-2, Iodine, biological studies 7704-34-9, Sulfur, biological studies 7723-14-0, Phosphorus, biological studies 7726-95-6, Bromine, biological studies 7782-41-4, Fluorine, biological studies 7782-49-2, Selenium, biological studies 8049-47-6, Pancreatin 8063-16-9, Psyllium 9000-82-2, Acetylesterase 9000-92-4, Amylase 9001-09-6, Chymopapain 9001-42-7, Maltase 9001-54-1, Hyaluronidase 9001-57-4, Invertase

9001-62-1, Lipase 9001-73-4, Papain 9001-75-6, Pepsin 9001-90-5, Plasmin 9001-92-7, Proteinase 9001-98-3, Rennin 9007-27-6, Chondroitin 9012-54-8, Cellulase 9013-93-8, Phospholipase 9015-75-2, Pectate lyase 9025-35-8 9025-37-0, Endo-1,3-β-Glucanase 9025-43-8 9025-56-3, Hemicellulase 9025-98-3, Pectin esterase 9031-11-2, Lactase 9032-08-0, Glucoamylase 9032-75-1, Pectinase 9033-35-6, Pectin lyase 9074-98-0 9075-84-7, Endo-1,3-α-Glucanase 10043-52-4, Calcium chloride, biological studies 11032-49-8, Vitamin K2 11104-38-4, Vitamin K1 12001-79-5, Vitamin K 13494-80-9, Tellurium, biological studies 16887-00-6, Chloride, biological studies 16984-48-8, Fluoride, biological studies 24959-67-9, Bromide, biological studies 37278-89-0, Xylanase 37288-49-6, endo-1,2-β-Glucanase 37288-58-7, Exo-poly-α-Galacturonosidase 37325-54-5, Arabinanase 37332-39-1, Arabinoxylanase 39346-28-6, Galactanase 51377-41-4, Cutinase 58182-40-4, Arabinogalactan endo-1,4-β-galactosidase 60748-69-8, Mannanase 62213-14-3, β-1,3(4)-Endoglucanase 62213-17-6, Arabinogalactan endo-1,3-β-galactosidase 74191-29-0, Endoglucanase 125858-89-1, Xylosidase 131384-64-0, Rhamnogalacturonase 148093-36-1, Rhamnogalacturonan acetyl esterase 150977-36-9, Bromelain 158886-11-4, Rhamnogalacturonan-α-rhamnosidase 188959-24-2, Xylan acetyl esterase

(formulation containing; wild-type and mutant Escherichia coli phytases and nucleic acids encoding them and their com. uses)

OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

L44 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:764910 HCAPLUS Full-text
DOCUMENT NUMBER: 147:300379
TITLE: Microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent
INVENTOR(S): Someus, Edward
PATENT ASSIGNEE(S): Hung.
SOURCE: Hung. Pat. Appl., 19pp.
CODEN: HUXXCV
DOCUMENT TYPE: Patent
LANGUAGE: Hungarian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
HU 2004001262	A2	20051128	HU 2004-1262	20040623

PRIORITY APPLN. INFO.: HU 2004-1262 20040623

ED Entered STN: 16 Jul 2007
AB The subject of the invention is a microbial composition tied to a solid carrier, preferably for the purpose of ensuring a natural supply of phosphorus to plants, and in order to increase the biol. defenses against pathogenic microorganisms in the soil and the biol. degradation of organic soil contaminants, and to enhance the life of the soil and of the yielding ability. The carrier is a bone carbon of animal origin that contains phosphorus and has a preferable grain size of 0.001 mm-10 mm, its structure is macroporous in the domain of 10-60,000 nm, its sp. surface is at least 1 m2/g but not more than 500 m2/g and its outer and inner surface is overgrown with biol. active

microorganisms that live in the soil. The subject of the invention includes a process to prepare and use the microbial composition in such a way that the carrier is made from animal bones using a carbonization process at a temperature over 300 °C, after which it is cooled to below 50° and the microbiol. inoculum produced by liquid phase fermentation is grown by solid fermentation on the outer and inner surface or inside of the sterile, porous, phosphor-containing carrier. The moisture content of the composition that has been prepared in this way is reduced and is stored for at least one year and can be re-activated using water and/or nutrients before use.

IT 7723-14-0, Phosphorus, biological studies
(microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

IC ICM A01G001-04

CC 19-6 (Fertilizers, Soils, and Plant Nutrition)

ST antimicrobial agent microorganism phosphorus fertilizer boneblack

IT Antimicrobial agents
(biol.; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Charcoal
(bone; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Pathogen
(defense against; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Microorganism
(fermentation of; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Fermentation
(liquid phase, inoculum; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Agrochemical formulations
Fungicides
Streptomyces griseoviridis
Trichoderma harzianum
(microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Carbonization
(of animal bones; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

IT Fertilizers
(phosphorus; microbial preparation bound to boneblack solid carrier, method for production and use as

fertilizer and antimicrobial agent)
IT Fermentation
(solid-state, main phase, on carbon carrier; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)
IT Bone
(source of phosphorus and carbon carrier; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)
IT 7440-44-0, Carbon, uses
(carrier; microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)
IT 7723-14-0, Phosphorus, biological studies
(microbial preparation bound to boneblack solid carrier, method for production and use as fertilizer and antimicrobial agent)

L44 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:426019 HCAPLUS Full-text
DOCUMENT NUMBER: 142:133746
TITLE: Microsite soil changes associated with traditional charcoal production in Quercus temperate forest in central Mexico
AUTHOR(S): Vazquez-Marrufo, Gerardo; Serrato-Flores, Rosalinda; Frias-Hernandez, Juan T.; Jimenez-Magdaleno, L. Antonio; Olalde-Portugal, Victor
CORPORATE SOURCE: Departamento de Biotecnologia y Bioquimica, CINVESTAV-IPN, Unidad Irapuato, Mex.
SOURCE: Phyton (Buenos Aires, Argentina) (2003) 85-99
CODEN: PHYBAX; ISSN: 0031-9457
PUBLISHER: Fundacion Romulo Raggio
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 May 2004
AB This paper analyzes changes generated by soil heating in charcoal-producing sites with different use history and in relation to an unheated control site within the same stand at Santa Rosa Quercus spp. forest in central Mexico. Soil pH increases in heated soil and decreases below control site values after several years. Organic matter content in recently created sites is similar to control site content, but organic matter content is considerably lower at a charcoal-producing site not recently used. Exchangeable Ca and K increase significantly up to control soil levels after heating, but for Ca this raise appears to be transitory. P and Mg do not increase with soil heating, and retention of these ions depends on site use history. Fe, Mn and Zn contents are greater in control unheated sites than in heated ones, whereas there are no significant differences in Cu content among control and charcoal -producing sites. Fe content of heated sites increases with time, and initial Mn and Zn contents might decrease considerably after several years. Bacteria and fungi plate counts increase in recently heated soil, but site reuse might cause long-term depletion of counts in heated sites. Actinomycetes are highly sensitive to soil heating for charcoal production, and their nos. do not recover even after several years. Data indicate that some nutrient changes and microbial counts in heated soils seem to be related with site use history within the stand.
IT 7723-14-0, Phosphorus, biological studies
(microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

CC 19-2 (Fertilizers, Soils, and Plant Nutrition)
ST soil nutrient heating charcoal prodn forest
IT Soils
(forest; microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Quercus
(forests; microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Heating
Soil acidity
Soil bacteria
Soil fungi
Soil organic matter
(microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Mineral elements, biological studies
Trace element nutrients
(microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Charcoal
(microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Forests
(oak; microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT Actinomycetes
(soil; microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
IT 7439-89-6, Iron, biological studies 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7440-09-7, Potassium, biological studies 7440-50-8, Copper, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies 7723-14-0, Phosphorus, biological studies
(microsite changes in soil properties from heating in charcoal-producing sites in Quercus forest in Mexico)
REFERENCE COUNT: 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:487306 HCAPLUS Full-text
DOCUMENT NUMBER: 137:42990
TITLE: Preparation of sustained-release agricultural chemicals
INVENTOR(S): Park, Hae-Jun; Lee, In-Kuk; Shin, Hyun-Suk; Rho, Mi-Young; Kim, Nam-Kyu
PATENT ASSIGNEE(S): S. Korea
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002049430	A1	20020627	WO 2001-KR2194	20011218
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2002008381	A	20020130	KR 2001-78948	20011213
AU 2002022759	A	20020701	AU 2002-22759	20011218
JP 2004525094	T	20040819	JP 2002-550783	20011218
JP 3809866	B2	20060816		
CN 1209012	C	20050706	CN 2001-818682	20011218
AU 2002222759	B2	20060413	AU 2002-222759	20011218
US 20040116296	A1	20040617	US 2003-399567	20030418

PRIORITY APPLN. INFO.:			KR 2000-78670	A	20001219
			KR 2001-32100	A	20010608
			KR 2001-78948	A	20011213
			WO 2001-KR2194	W	20011218

ED Entered STN: 28 Jun 2002

AB A process for preparing sustained-release agricultural chems. containing phosphorous acid salt comprises: (a) adding an effective component of agricultural chems. in a ratio of 1-100 g per 100 mL of solvent, dissolving and collecting a solution containing said effective component; (b) adding a porous carrier in a ratio of 0.5-2.0 kg per 100 mL of said solution containing said effective component of said agricultural pesticide, mixing homogeneously, drying to form an adsorption carrier containing said effective component; and (c) adding a suspension containing 0.5-15 g of polysaccharides obtained from microorganism per 1 kg of said adsorption carrier containing said effective component of said agricultural chems. dried above.

IC ICM A01N025-08
CC 5-4 (Agrochemical Bioregulators)
IT Charcoal
(activated; porous carrier in sustained-release agrochem. compns.)
IT Polysaccharides, uses
(microorganism-derived; coating in sustained-release agrochem. compns.)
IT 52-68-6, DEP 55-38-9, MPP 60-51-5, Dimethoate 63-25-2, NAC 69-53-4, Ampicillin 69-72-7, Salicylic acid, biological studies 94-75-7, 2,4-D, biological studies 94-81-5, MCPB 99-30-9, CNA 114-26-1, PHC 119-12-0, Pyridaphenthion 121-75-5, Malathion 122-14-5, MEP 122-34-9, Simazine 133-06-2, Captan 148-79-8, Thiabendazole 298-03-3 333-41-5, Diazinon 541-48-0, β-Aminobutyric acid 732-11-6, PMP 834-12-8, Ametryn 1129-41-5, MTMC 1836-77-7, CNP 1912-24-9, Atrazine 2104-64-5, EPN 2212-67-1, Molinate 2274-67-1, Dimethylvinphos 2275-23-2, Vamidothion 2540-82-1, Formothion 2597-03-7, PAP 2631-40-5, MIPC 2655-14-3, XMC 2797-51-5, ACN 3766-81-2, BPMC 5598-13-0

6894-38-8, Jasmonic acid 6923-22-4, Monocrotophos 6980-18-3, Kasugamycin 7292-16-2, Propaphos 10004-44-1, Hydroxyisoxazole 10380-28-6, Oxine-copper 10443-70-6, MCPBethyl 11113-80-7, Polyoxin 13356-08-6, Fenbutatin oxide 13598-36-2D, Phosphorous acid, salt 14698-29-4, Oxolinic acid 15263-53-3, Cartap 17606-31-4, Bensultap 18181-80-1, Phenisobromolate 18854-01-8, Isoxathion 19666-30-9, Oxadiazon 22248-79-9, CVMP 22936-75-0, Dimethametryn 23184-66-9, Butachlor 24151-93-7, Piperophos 25057-89-0, Bentazon 26087-47-8, IBP 27355-22-2, Fthalide 28249-77-6, Benthiocarb 29232-93-7, Pyrimiphosmethyl 30560-19-1, Acephate 31895-21-3, Thiocyclam 32861-85-1, Chlomethoxynil 36335-67-8, Butamifos 36734-19-7, Iprodione 41814-78-2, Tricyclazole 42576-02-3, Bifenox 42609-52-9, Dymron 50512-35-1, Isoprothiolane 50642-14-3, Validamycin 51218-49-6, Pretilachlor 52570-16-8, Naproanilide 55179-31-2, Bitertanol 55285-14-8, Carbosulfan 55814-41-0, Mepronil 57369-32-1, Pyroquilon 57520-17-9, Iminoctadine Triacetate 57837-19-1, Metalaxyl 58011-68-0, >,Pyrazolate 58798-67-7, Blasticidin 59669-26-0, Thiodicarb 60168-88-9, Fenarimol 61432-55-1, Dimepiperate 62865-36-5, Diclomezine 63935-38-6, Cycloprothrin 65907-30-4, Furathiocarb 66952-49-6, Methasulfocarb 68505-69-1, Benfuresate 69327-76-0, Buprofezin 70630-17-0, Metalaxyl-M 71561-11-0, >,Pyrazoxyfen 73250-68-7, Mefenacet 74115-24-5, Clofentezine 74712-19-9, Bromobutide 76280-91-6, Tecloftalam 76578-14-8, Quizalofop-ethyl 76608-88-3, Triapenthenol 76738-62-0, Paclobutrazol 79540-50-4, Etobenzanid 80844-07-1, Ethofenprox 82211-24-3, Inabenfide 82560-54-1, Benfuracarb 82657-04-3, Bifenthrin 82692-44-2, Benzofenap 83055-99-6, Bensulfuronmethyl 83657-22-1, Uniconazole 84087-01-4, Quinclorac 85785-20-2, Esprocarb 87818-31-3, Cinmethylin 88678-67-5, Pyributicarb 89269-64-7, Ferimzone 93697-74-6, Pyrazosulfuronethyl 94593-91-6, Cinosulfuron 96489-71-3, Pyridaben 96491-05-3, Thenylchlor 97886-45-8, Dithiopyr 99485-76-4, Cumyluron 104030-54-8, Carpropamid 105024-66-6, Silafluofen 110956-75-7, Pentoxazone 112410-23-8, Tebufenozide 115852-48-7, NNF-9425 120068-37-3, Fipronil 120162-55-2, Azimsulfuron 122008-85-9, Cyhalofop-butyl 122548-33-8, Imazosulfuron 125306-83-4, Cafenstrole 130000-40-7, Thifluzamide 131860-33-8, Azoxystrobin 133408-50-1, Metominostrobin 135158-54-2, Acibenzolar-S-methyl 136849-15-5, Cyclosulfamuron 138261-41-3, Imidacloprid 147411-69-6, Pyriminobacmethyl 150824-47-8, Nitenpyram

(sustained-release compns. containing)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:877404 HCAPLUS Full-text

DOCUMENT NUMBER: 142:78905

TITLE: A composition for preventing contagious diseases of soil and for improving soil physicochemical properties

INVENTOR(S): Kim, Gi Seong; Kim, Young Hyeun; Lee, Dong Un; Park, Byeong Gwan; Park, Jae Wan; Park, Ji Woong; Shin, Man Shik

PATENT ASSIGNEE(S): S. Korea

SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given CODEN: KRXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2001035081	A	20010507	KR 2000-78074	20001218

PRIORITY APPLN. INFO.: KR 2000-78074 20001218

ED Entered STN: 22 Oct 2004
AB A method is described for preparing a composition for preventing contagious diseases from soils and for improving the physicochem. properties of the soil; the composition was obtained from dolomite, silica, charcoal, and at least one material selected from theriac, poroligenous liquor, starch, nitrogen, phosphorus, potassium, and a microbe. The mix for the composition contains (1) 10-80 wt% dolomite; (2) 10-60 wt% silica sand; (3) 0.50 wt% charcoal, and (4) 1-30 wt% (based on 100 wt% of the composition) of theriac, (5) 1-30 wt% (based on 100 wt% of the composition) of poroligenous liquor, and (6) 1-30 wt% (based on 100 wt% of the composition) starch.
IT 7723-14-0, Phosphorus, uses
(a composition for preventing contagious diseases of soil and for improving the soil physicochem. properties)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

IC ICM C09K017-02
CC 58-5 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 19
IT Charcoal
(a composition for preventing contagious diseases of soil and for improving the soil physicochem. properties)
IT 7631-86-9, Silica, uses 7723-14-0, Phosphorus, uses 9005-25-8, Starch, uses 16389-88-1, Dolomite (CaMg(CO3)2), uses
(a composition for preventing contagious diseases of soil and for improving the soil physicochem. properties)

L44 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:93611 HCAPLUS Full-text
DOCUMENT NUMBER: 134:325784
TITLE: The 'Terra Preta' phenomenon: a model for sustainable agriculture in the humid tropics
AUTHOR(S): Glaser, Bruno; Haumaier, Ludwig; Guggenberger, Georg; Zech, Wolfgang
CORPORATE SOURCE: Institute of Soil Science and Soil Geography, University of Bayreuth, Bayreuth, 95440, Germany
SOURCE: Naturwissenschaften (2001), 88(1), 37-41
CODEN: NATWAY; ISSN: 0028-1042
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Feb 2001
AB Many soils of the lowland humid tropics are thought to be too infertile to support sustainable agriculture. However, there is strong evidence that

permanent or semi-permanent agriculture can itself create sustainably fertile soils known as 'Terra Preta' soils. These soils not only contain higher concns. of nutrients such as nitrogen, phosphorus, potassium and calcium, but also greater amts. of stable soil organic matter. Frequent findings of charcoal and highly aromatic humic substances suggest that residues of incomplete combustion of organic material (black carbon) are a key factor in the persistence of soil organic matter in these soils. The authors' investigations showed that 'Terra Preta' soils contained up to 70 times more black carbon than the surrounding soils. Due to its polycyclic aromatic structure, black carbon is chemical and microbially stable and persists in the environment over centuries. Oxidation during this time produces carboxylic groups on the edges of the aromatic backbone, which increases its nutrient-holding capacity. It was concluded that black carbon can act as a significant carbon sink and is a key factor for sustainable and fertile soils, especially in the humid tropics.

CC 19-2 (Fertilizers, Soils, and Plant Nutrition)

IT Charcoal

(soil organic matter in Terra Preta soils in humid tropics)

OS.CITING REF COUNT: 50 THERE ARE 50 CAPLUS RECORDS THAT CITE THIS RECORD (50 CITINGS)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2001:347465 HCAPLUS Full-text

DOCUMENT NUMBER: 134:331048

TITLE: Method for decomposing organic substances by aerobic fermentation at high temperature

INVENTOR(S): Chen, Shenyuan

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 15 pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1260337	A	20000719	CN 1999-125276	19991202
PRIORITY APPLN. INFO.:			CN 1999-125276	19991202

ED Entered STN: 16 May 2001

AB The method is characterized by mixing porous substances with microbes and organic wastes, and fermenting at 45-100Φ' in the presence of O2. The porous substances is selected from charcoal, coal, shell, oyster, egg shell, maize bran, bone, wood, glass, ceramics, gypsum, metal, diatomite, mineral substances or polyfiber; and the microbe from one or more of thermophilic actinomycetales, pseudomonadales, eubacteriales and fungi. The method is highly efficient and simple.

IC C05F003-00; C05F009-00; C05F011-08; C05F017-00; A23K001-00

CC 60-4 (Waste Treatment and Disposal)
Section cross-reference(s): 10, 19

ST thermophilic microbe waste treatment org substance aerobic fermn

IT Fertilizers

(nitrogen-phosphorus-potassium; decomposition of organic substances by aerobic fermentation at high temperature)

IT Porous materials
(thermophilic microbes-containing; decomposition of organic substances by aerobic fermentation at high temperature)
IT Charcoal
(thermophilic microbes-containing; decomposition of organic substances by aerobic fermentation at high temperature)

L44 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1955:37215 HCAPLUS Full-text
DOCUMENT NUMBER: 49:37215
ORIGINAL REFERENCE NO.: 49:7164e-i
TITLE: Biological transformations of phosphorus in soil. I. Theory and methods
AUTHOR(S): Goring, C. A. I.
CORPORATE SOURCE: Iowa State Coll., Ames
SOURCE: Plant and Soil (1955), 6, 17-25
CODEN: PLSOA2; ISSN: 0032-079X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
ED Entered STN: 22 Apr 2001
AB The availability of nonradioactive inorg. P fertilizers to soil organisms was estimated from the equation: Ic = {[Ib(Os - Obf)]/Obf}Ia, where Ia (amount available soil P), Ib (added inorg. P traced with P32), and Os (total amount of synthesized organic P) were known and 0bf (amount of synthesized ors. P derived from added inorg. P traced with P32) was determined Organic P31 and P32 were determined in soil samples incubated with P32 as follows: Treat 10 g. soil with 25 ml. N HCl and heat 5 min. at 70°. Filter and collect the leachate in a 250-ml. volumetric flask. Wash with 100 ml. N HCl. Dilute to volume Extract soil and filter paper with 200 ml. 0.5N NaOH for 16 hrs. at 23-7° in a 250-ml. Erlenmeyer flask and filter. Repeat the extraction at 85-90° for 16 hrs. by using a Bunsen valve to minimize H2O loss. Cool the 2nd NaOH extract to 23-7°, combine the 2-exts. and dilute to 500 ml. with H2O. Allow the suspended material to settle. Determine the total P on aliquots of the clear HCl and NaOH exts. by combining and digesting them with 1-2 ml. 70% HClO4. Determine inorg. P by the method of Dickman and Bray. To determine organic P32, transfer 100 ml. clear NaOH extract to a 125-ml. Erlenmeyer flask with 8 ml. 12N HCl and 250 mg. activated charcoal. Shake for 1 hr. Add charcoal 1-2 more times with 1-hr. shaking periods. Filter and wash with 60 ml. 0.5N HCl. Transfer the filter paper and charcoal to a 50-ml. beaker; treat with 10 ml. N NH4OH and 1 ml. 10% Mg(NO3)2. Evaporate to dryness and ignite at 500-50° for 16 hrs. Treat the residue with 1 ml. concentrated HCl, warm for 1 min. at 70°, dilute with 20 ml. H2O, and heat at 70° for 30 min. Filter the solution into a 50-ml. volumetric flask, wash with H2O, and make to volume Determine the activity of P32 in the filtrate. To avoid significant radiation damage to soil microorganisms, the specific activities used were less than 0.05 mc. P32/mg. P31.
IT 7723-14-0, Phosphorous
(analysis, determination of P31 and P32 in soil organic matter)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

IT 7723-14-0P, Phosphorus
(in soils, biol. transformations of)
RN 7723-14-0 HCAPLUS

CN Phosphorus (CA INDEX NAME)

P

IT 7723-14-0, Phosphorus
(in soils, organic)
RN 7723-14-0 HCAPLUS
CN Phosphorus (CA INDEX NAME)

P

CC 15 (Soils and Fertilizers)
IT Soils
Soils
(phosphorus in, biol. transformations of)
IT Soils
(phosphorus in, formation of organic)
IT Microorganisms
(soil, P transformations by)
IT 7723-14-0, Phosphorous
(analysis, determination of P31 and P32 in soil organic matter)
IT 7723-14-0P, Phosphorus
(in soils, biol. transformations of)
IT 7723-14-0, Phosphorus
(in soils, organic)

=> d 16-28 full

L44 ANSWER 16 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 2009-L37482 [47] WPIX Full-text
TI Treating biomass involves providing biomass to microbial digester, then transferring output to algae production unit and harvesting algae, where produced gases are passed to gas separator/other digester/combustion unit/algae production unit
DC B04; D16; H09
IN BLOTSKY R D; FIGUEROA R; STEPENOFF G F; STEPENOFF G S; BLOTSKY R
PA (CORE-N) CORE INTELLECTUAL PROPERTIES HOLDINGS LLC; (BLOT-I) BLOTSKY R; (FIGU-I) FIGUEROA R; (STEP-I) STEPENOFF G F; (STEP-I) STEPENOFF G S
CYC 122
PI WO 2009086307 A1 20090709 (200947)* EN 32[2]
US 20090227003 A1 20090910 (200960) EN
ADT WO 2009086307 A1 WO 2008-US88025 20081222; US 20090227003 A1 Provisional US 2007-8704P 20071221; US 20090227003 A1 US 2008-341759 20081222
PRAI US 2007-8704P 20071221
US 2008-341759 20081222
IPCI C12M0001-00 [I,A]; C02F0011-04 [I,A]; C02F0011-04 [I,C]; C12M0001-00 [I,C]; C12M0001-107 [I,A]; C12M0001-107 [I,C]; C12N0001-12 [I,A]; C12N0001-12 [I,C]
NCL NCLM 435/257.100
NCLS 210/603.000; 435/300.100

AB WO 2009086307 A1 UPAB: 20090728

NOVELTY - Treating (M1) biomass (1) involves: a) providing biomass to at least one microbial digester unit; b) transferring output from at least one microbial digester unit to algae production unit (6); and c) harvesting the algae from the algae production unit, where gases produced in at least step (a) are transferred to at least one of gas separation unit (10), another digester unit, combustion unit or algae production unit.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) system for treating biomass comprising at least one hydrolysis unit; at least one microbial digester unit; at least one algae production unit; and gas transferring equipment comprising at least conduit and pump; and

(2) producing (M2) energy and beneficial products from biomass involving removing large debris from biomass with debris separation unit (2) to results in biomass feedstock (2b); transferring the biomass feedstock to hydrolysis unit and retaining the biomass feedstock for 2-48 hours; providing output from the hydrolysis unit to at least one anaerobic digester unit (4); providing output from the at least one anaerobic digester unit to at least one aerobic digester unit (5); providing output from at least one aerobic digester unit to at least one algae production unit; harvesting algae from the algae production unit; where gases produced in at least one unit are transferred to at least one of gas separation unit, another digester unit, combustion unit or algae production unit; and the energy produced in combustion unit is transferred to at least one unit, and heat produced by at least one unit is transferred to at least one unit.

USE - For treating biomass useful for producing energy and beneficial products (claimed), e.g. protein sources, fertilizer, biodiesel and pharmaceutical agents. Also useful for recycling of the nutrients, compounds and energy of biomass waste materials into usable gases, electricity, heat, cleaner water and beneficial products. Beneficial products are methane gas, hydrogen gas, ammonia gas, carbon dioxide, hydrogen sulfide, nitrogen rich fertilizer, proteins, amino acids, carbohydrate and/or mineral rich compositions, solutions or slurries, insecticidal mixture, charcoal, carbon black, insect repellant mixture, biodiesel, algae, algae products, heat, electricity, potable water, grey water.

ADVANTAGE - The method and system captures and utilizes the nitrogen, potassium, phosphorous present in the biomass material for production of proteins, oils and carbohydrates by algae or other plant sources, thus reduces the discharge of liquid wastes that contribute to groundwater contamination. Water present in the biomass waste feedstock and used in the methods and systems is cleaned of high levels of nutrients which allows for the water that is used for agricultural and municipal purposes.

DESCRIPTION OF DRAWINGS - The figure shows perspective view of system for treating biomass.

Biomass (1)
Debris separation unit (2)
Oversized debris (2a)
Biomass feedstock (2b)
Hydrolysis unit (3)
Gases (3a)
Anaerobic digester unit (4)
Aerobic digester unit (5)
Input gases (5d)
Algae production unit (6)
Gas separation unit (10)

TECH ORGANIC CHEMISTRY - Preferred Method: The method (M1) additionally involves retaining biomass in at least one hydrolysis unit prior to step (a); pre-treating biomass to remove debris prior to step (a); pre-treating biomass to remove debris transferring the biomass to an hydrolysis unit; extracting desired products from the harvested algae;

transferring heat produced in a unit of the method (M1) to at least one unit of the method (M1); using the gas produced to generate electricity, where produced electricity is provided to at least one unit of the method (M1) or to an external recipient; providing the water from the algae production unit to another unit of the method (M1) or to an external recipient; transferring gases produced in at least one hydrolysis unit to at least one of gas separation unit, another digester unit, combustion unit or an algae production unit; and processing the harvested algae to produce biodiesel fuel, oils, lipids and fatty acids, protein for use in animal and human food, enzymes and alcohols for industrial uses and other beneficial products. The biomass feedstock is retained for 2-48 hours. The biomass is provided to at least one anaerobic digester unit, and output from at least one anaerobic digester unit is provided to at least one aerobic digester unit. Preferred System: The system additionally comprises at least algae harvesting unit, debris separation unit, and heat transfer and electrical transfer conduits and pumps. The at least one microbial digester unit is an anaerobic digester unit or an aerobic digester unit.

ABEX EXAMPLE - A biomass was pretreated to remove debris in debris separation unit. Water was added to make the biomass feedstock flowable mixture and the biomass was transported to the hydrolysis unit where it was retained for 20 hours. Carbon dioxide gas was released in the hydrolysis unit, and pumped out of the hydrolysis unit container and the gas was provided to the algae production unit. After 20 hours, the biomass feedstock was pumped to an anaerobic digester unit, where the biomass was acted on by anaerobic microbes for 3 days. Methane gas and ammonia gas, along with minor amounts of other gases, were produced and pumped to a gas separation unit. The gases were separated, and the methane was pumped to energy production unit where it was burned in the process of producing electricity using gas turbine. A megawatt of electricity was produced and portion was used to run the pumps used in the system and to agitate the solutions in the microbial digester units. The ammonia gas was pumped to algae production unit. After 3 days, the resulting liquids and solids from the anaerobic digester unit were pumped to aerobic digester unit. To aid the activity of the aerobic microorganisms, compressed air was pumped into the aerobic digester unit. The biomass remains within the aerobic digester unit for 5 days. Several gases were produced in the aerobic digester unit. The gases, such as ammonia and carbon dioxide were pumped to gas separation unit, where the gases were separated, and the ammonia and carbon dioxide were provided to algae production unit. After 5 days, the resulting liquids and solids from the aerobic digester unit were provided to open pond of algae. In the open pond, 1.5-3 pound/square ft of algae were produced. The gases from other units were bubbled into the pond at various places in the pond. Heat was also provided to the pond from other units. The algae grow. The activity of algae removed nutrients and other elements from the water, so that the water, when separated from the algae, was used safely for agriculture or to add to municipal water system treatment plants. After 2 weeks to 2 months of growth of the algae, the algae were harvested by draining the now-cleaned water from the pond and removing the algae with mechanical reapers. The algae were processed by pressing them to release biodiesel compounds. Alternatively, with other algae, the algae were dried and the dried material was used as animal feed.

FS CPI

MC CPI: H09-F03; B04-D03; B05-C01; B05-C04; B05-C05; B05-C06; B05-C08; B10-J02; B11-C06; D05-A03; D05-C

L44 ANSWER 17 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 2009-L38945 [57] WPIX Full-text
TI Biological organic fertilizer for growing crop, improving soil, increasing soil fertility and strengthening stress resistance of crop, comprises grass charcoal adsorbing agent, fermented livestock manure and humic acid
DC C04; D16
IN JIA H; LI K; WEI D; YANG M; ZHANG Z
PA (ANGA-N) ANGANG IND SHENFENG BIOLOGICAL ENG CO LTD
CYC 1
PI CN 101468924 A 20090701 (200957)* ZH 7[0]
ADT CN 101468924 A CN 2007-10159253 20071228
PRAI CN 2007-10159253 20071228
IPCI C05F0011-00 [I,C]; C05F0011-02 [I,A]; C05F0015-00 [I,A]; C05F0015-00 [I,C]; C05F0017-00 [I,A]; C05F0017-00 [I,C]; C05F0003-00 [I,A]; C05F0003-00 [I,C]
AB CN 101468924 A UPAB: 20090907
NOVELTY - A biological organic fertilizer comprises (weight%) grass charcoal adsorbing agent (10-20), fermented livestock manure (35-45) and humic acid (40-55). About 90-92% of grass charcoal adsorbing agent is used to adsorb 8-10% liquid microbial agent. About 90-92% of livestock manure is fermented by 8-10% liquid microbial agent.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for production of biological organic fertilizer, comprising spraying 8-10% liquid microbial agent on 90-92% grass charcoal while stirring, stacking and fermenting for 24-28 hours, heating at 40-50 degrees C for 24-28 hours, and detecting if bacterial count is more than 2 hundred million/kg; spraying 8-10% liquid microbial agent on 90-92% fresh livestock manure while stirring, stacking for 7-15 days, removing surface layer when temperature is at 60-80 degrees C and moisture is 25-35%; uniformly mixing grass charcoal adsorbing liquid microbial agent, fermented livestock manure, humic acid, chemical fertilizer and/or binder; pelleting, quickly drying at 70-90 degrees C, directly cooling, screening, detecting and packing.
ACTIVITY - Fertilizer.
USE - A biological organic fertilizer for growing crop, improving soil, increasing soil fertility and strengthening stress resistance of crop.
ADVANTAGE - The fertilizer is convenient to use; has low cost, simple and rational production process, and short time when fermenting livestock manure; contains nutrient elements needed by crop growth, azotobacteria, phosphorus-dissolving bacteria and potassium-dissolving bacteria; and does not cause harm and pollution, reduces harmful substance, reserves effective ingredient, and meets standard for green food production.
TECH AGRICULTURE - Preferred Composition: The biological organic fertilizer comprises 5-10 wt.% chemical fertilizer.
BIOTECHNOLOGY - Preferred Components: The liquid microbial agent comprises Pseudomonas stutzeri and Bacillus megaterium. The liquid microbial agent with pH of 6.0-8.0, has bacterial count of not less than 10 hundred million/ml, preferably not less than 20000 thousands/kg, and contains not less than 25% organic substance. The biological organic fertilizer powder has 20-35 (preferably not greater than 10)% moisture content.
ORGANIC CHEMISTRY - Preferred Components: The grass charcoal has fineness of not less than 40 meshes, and contains not less than 30% organic substance. The humic acid has fineness of not less than 80 meshes, and contains not less than 45% organic substance.
FS CPI
MC CPI: C04-A09J; C04-B04B2; C04-F10A6; C04-F10B1; C05-C06; C14-T04; C14-U02; C14-U05; D05-C

L44 ANSWER 18 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2009-A85378 [04] WPIX Full-text
DNC C2009-036133 [04]
DNN N2009-062320 [04]
TI Water containing composition e.g. for non-pollution type water resistant processing body comprises basic type water containing composition which adds reactive powder form composition and is mixed with binding liquid composition
DC A93; A97; D15; E37; L02; X25
IN NAITO H; NAITO N
PA (NATO-N) NATO KENKYUSHO KK
CYC 1
PI JP 2008308396 A 20081225 (200904)* JA 112[0]
ADT JP 2008308396 A JP 2007-182639 20070615
PRAI JP 2007-182639 20070615
IPCI C02F0001-28 [I,A]; C02F0001-28 [I,C]; C02F0011-00 [I,A]; C02F0011-00 [I,C]; C02F0011-02 [I,A]; C02F0011-02 [I,C]; C04B0012-00 [I,C]; C04B0012-04 [I,A]; C04B0014-02 [I,A]; C04B0014-02 [I,C]; C04B0014-04 [I,A]; C04B0014-30 [I,A]; C04B0014-36 [I,A]; C04B0018-04 [I,A]; C04B0018-04 [I,C]; C04B0022-00 [I,A]; C04B0022-00 [I,C]; C04B0024-00 [I,A]; C04B0024-00 [I,C]; C04B0028-00 [I,C]; C04B0028-26 [I,A]; C04B0007-00 [I,C]; C04B0007-02 [I,A]; C04B0007-28 [I,A]
FCL C02F0001-28 B; C02F0001-28 L; C02F0011-00 101 Z; C02F0011-02; C04B0012-04; C04B0014-02 A; C04B0014-04; C04B0014-30; C04B0014-36; C04B0018-04; C04B0022-00; C04B0024-00; C04B0028-26; C04B0007-02; C04B0007-28
Main: C04B0028-26
Secondary: C02F0001-28 B; C02F0001-28 L; C02F0011-00 101 Z; C02F0011-02; C04B0012-04; C04B0014-02 A; C04B0014-04; C04B0014-30; C04B0014-36; C04B0018-04; C04B0022-00; C04B0024-00; C04B0007-02; C04B0007-28
FTRM 4D024; 4D059; 4D624; 4G012; 4G112; 4D059/AA03; 4D059/AA19; 4D624/AB11; 4D624/AB17; 4D059/BA01; 4D624/BA04; 4D624/BA05; 4D624/BA06; 4D624/BA11; 4D624/BA12; 4D624/BA13; 4D624/BA14; 4D624/BB01; 4D059/BG00; 4D059/BK01; 4D059/CC01; 4D059/CC04; 4D059/CC10; 4D059/DA23; 4D059/DA24; 4D059/DA64; 4D059/DA67; 4D059/DA70; 4G112/PA03; 4G112/PA11; 4G112/PA14; 4G112/PB01; 4G112/PB14; 4G112/PC01; 4G112/PC11; 4G112/PD01; 4G112/PD03; 4G112/PE04
AB JP 2008308396 A UPAB: 20090116

NOVELTY - A water containing composition comprises basic type water containing composition which adds reactive powder form composition having incinerated ash, phosphorus containing incinerated ash, coal ash, discharged slag and alkaline powder form composition containing aluminosilicate compound which holds active calcia, and is homogeneously mixed with binding liquid composition consisting of water medium, alkaline silicate which holds alkali metal ion and silanol group, and alkaline liquid composition having oxyacid ion of sulfur, phosphorus, carbon and/or boron.

DETAILED DESCRIPTION - A water containing composition comprises basic type water containing composition which adds reactive powder form composition having incinerated ash of general and industrial waste, phosphorus containing incinerated ash of sewage sludge and agricultural wastewater sludge, discharged coal ash, discharged slag and alkaline powder form composition containing aluminosilicate compound which holds active calcia in 50-140 mass parts quantity ratio, and is homogeneously mixed with binding liquid composition consisting of water medium of formula $M_2O.aSiO_2.bSO_3.cP_2O_5.dCO_2.eB_2O_3.wH_2O$, alkaline silicate which holds alkali metal ion and silanol group, and alkaline liquid composition having oxyacid ion of sulfur, phosphorus, carbon and/or boron. The binding liquid composition consists of modified alkaline silicate which stability in liquid state is ensured for 30 days at normal temperature. The basic type water containing

composition has specific gravity of 1.1-2.4 g/cm3 at pH of greater than or equal to 10.

M=Na or K;

a=0.5-3;

b,c,d,e=0.05-1; and

w=4-40.

INDEPENDENT CLAIMS are included for:

(1) a use processing of water containing composition involving making water containing composition into use process target material chosen from mineral, rock, silica sand and clay, ceramics, earthenware, dry distilled goods and charcoals, volcanic ejecta, slag, incinerated ashes, gypsum and cement hardening product, inorganic oxides, metal, wood, bamboo and plant body, fiber body, paper quality body, leather, bone and animal body, organism and plastics rubber; preparing at water containing non-pollution type water resistance processing body which attaches series of work processes consisting of processing unit; manufacturing water containing composition into processed material; making processed material in predetermined shape using working tool which binding and solidifying are carried out; and performing detoxifying processes; and

(2) a non-pollution type water resistance processing body comprising water containing composition and processed target base material.

USE - Water containing composition for non-pollution type water resistant processing body (claimed). Can also be used in agriculture and fishery material, civil engineering and construction materials, soil ground improvement materials, fire-resistance and heat retention materials, ceramic industry and earthenware materials, craft and processing materials, attachment and curing agent, water purification and processing agent or plant cultivation base material.

ADVANTAGE - The composition is safe, has no bad effect to the environment and enables labor saving type on-site construction operation in normal temperature.

TECH INORGANIC CHEMISTRY - Preferred Components: The water containing composition contains liquid alkaline silicate (50-200 mass parts) which holds silanol group of formula M2O.aSiO2.wH2O. The reactive powder form composition contains element group with toxic group chosen from cadmium, arsenic, mercury, lead, chromium, selenium, boron, fluorine or manganese at concentration of greater than or equal to 15 mg/kg. The water containing composition contains calcia composition of formula CaO.wH2O, sulfate composition containing functional raw material group of basic salt of oxyacid group salt compound or normal salt of formula aM2O.bZO.cR2O3.SOn.wH2O, phosphate composition of formula dGOt.P2O5.wH2O, carbonate composition of formula aM2O.bZO.cR2O3.CO2.wH2O, aluminum and iron salt composition of formula FeOn/2.Al2O3.TOm.wH2O, buffer zoning composition of formula M2O.bZO.gB2o3.wH2O, pigment chosen from coloring agent, activator, filling dispersing agent, magnetic body, catalyst, oxidizing body, holder, aggregation separating medium, agrochemical, herbicide, fertilizer and microorganisms nutrient, plant seed, fungi, anti-microorganisms agent, water repellent and functional addition agent; filling simple material composition and bone material raw material composition. The fiber type granular material group of heat retention and adiabatic base material consists of calcium silicate, alumina fiber, rock wool, carbon fiber and metal fiber.

M=alkali metal;

Z=alkaline earth metal preferably Mg, Ca, or Zn;

R=Al or trivalent iron;

a,b,c= less than or equal to 20;

n=2-3;

w= less than or equal to 28;

G=Na, K, Mg, Ca, Ba or Fe;
d=1-8;
t=number of G element valence divided by 2;
e= less than or equal to 4;
T=Si, S, N or P;
m=0.5-6; and
g=1-4.
Preferred Process: The liquid silicate alkali composition is prepared by reacting alkaline silicate (20-60 mass parts) and alkali metal (80-140 mass parts) with water at normal temperature.
FS CPI; EPI
MC CPI: A12-W11J; D04-A01; D04-B07; E31-K07; E31-P02D; E31-P05C; E31-Q08; E34-B04; E34-C03; E34-D01; E34-D03B; E35-C04; E35-U05; L02-D14Q; N01-A; N02-A01; N02-C01; N02-D; N02-E03; N02-F02; N03-D; N03-F01; N04-A; N06-A
EPI: X25-W01A

L44 ANSWER 19 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 2007-178422 [18] WPIX Full-text
DNC C2007-063492 [18]
DNN N2007-129449 [18]
TI Preparation of soil auxiliary material, useful as fertilizers, comprises providing charcoal, contacting the charcoal with water and plant nutrients; contacting the growth medium with soil microorganism and incubating the culture medium
DC C04; D16; P13
IN WEDIG H; WOLF R
PA (WEDI-I) WEDIG H; (WOLF-I) WOLF R
CYC 36
PI EP 1739067 A1 20070103 (200718)* DE 7[0]
ADT EP 1739067 A1 EP 2005-105919 20050630
PRAI EP 2005-105919 20050630
IPCI A01G0031-00 [I,A]; A01G0009-04 [I,A]; C05F0011-00 [I,C]; C05F0011-00 [I,C]; C05F0011-02 [I,A]; C05F0011-04 [I,A]
EPC C05F0011-02; C05F0011-04
AB EP 1739067 A1 UPAB: 20070314
NOVELTY - Preparation of soil auxiliary material comprises: providing charcoal with a average particle size of less than or equal to 25 mm; contacting the charcoal with water and plant nutrients to obtain a growth medium; contacting the growth medium with soil micro organisms to obtain a culture medium; and incubating the culture medium at 25-37degreesC for at least three days.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:
(1) A soil auxiliary material comprising charcoal, water, plant nutrients and soil micro organisms; and
(2) A soil product comprising the soil auxiliary material and soil or another plant substrates, where the soil and the plant substrate are in the ratio of 1:99-20:80 weight%.
ACTIVITY - Fertilizer.
MECHANISM OF ACTION - None given.
USE - The soil auxiliary agent is useful as fertilizer .
No agricultural data available.
TECH ORGANIC CHEMISTRY - Preferred Components: The charcoal exhibits an average particle size of 2-10 mm. The plant nutrients are organic or inorganic origin. In the preparation, for a kg of charcoal, 1-3 kg of water and 0.05-0.2 kg of plant nutrients are added. The soil microorganisms are added in the form of soil samples or in the form of microorganism nutrient solutions. The microorganisms are anaerobic and aerobic

bacteria, nitrogen binders, photosynthetic bacteria and/or mycetes. Preferred Method: The incubation period is five to ten days. The soil auxiliary material is mixed with soil or another plant substrate.

ABEX EXAMPLE - Charcoal (10 kg) with an average particle size of 15 mm was added to the water (25 liters) and NPK (nitrogen, phosphorus and potassium) fertilizers. The mixture was mixed well. To the mixture, effective microorganisms (1 liter) as aqueous solution were added. The mixture was stored at 30-35degreesC for 9 days. The obtained product was mixed with plant soil to give soil auxiliary material.

FS CPI; GMPI

MC CPI: C04-D03; C04-F09; C04-F10; C05-B02A4; C14-T; D05-A04

L44 ANSWER 20 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2008-D67533 [27] WPIX Full-text

CR 2007-124978

TI Stevia organic fertilizer and its production method

DC C04

IN WANG J

PA (WANG-I) WANG J

CYC 1

PI CN 101037356 A 20070919 (200827)* ZH [0]

ADT CN 101037356 A CN 2007-10089254 20070317

PRAI CN 2006-10043522 20060411

IPCI C05F0001-00 [I,A]; C05F0001-00 [I,C]; C05F0011-00 [I,C]; C05F0011-08 [I,A]; C05F0005-00 [I,A]; C05F0005-00 [I,C]; C05G0001-00 [I,A]; C05G0001-00 [I,C]

AB CN 101037356 A UPAB: 20080425

NOVELTY - The invention claims a stevia organic fertilizer; it is prepared by following raw material based on weight percentage: fermented powder of stevia is 10%, potassium sulphate is 10%, sulphuric acid diammonium is 11%, cotton-seed cake is 10%, sesame meal is 20%, monosodium glutamate offal is 20%, fish meal is 6%, silkworm pupa is 3% and bone charcoal is 10%; nitrogen content is equal to or more than 7, phosphorus content is equal to or more than 8, potassium content is equal to or more than 5 and total content of organic material is equal to or more than 69% in total amount of said raw material. The production method is as follows: screen various raw materials; detect content of constituents; carry out drying and crushing on various raw materials respectively; stir and blend them in V shape vacuum sealable tank according to formulation proportion, and finished product is acquired by squeezing grain with grain-making machine, screening, cooling and package. Fertilizer of the invention can improve autoimmunity of plant and growth of beneficial microorganism, prevent and treat soil degradation and soil fatigue because of continuous farming work, decompose chemical pesticide which remains in crops and soil in order to improve quality of crops. It is used for film shed vegetables, fruits, cereals and other crops.

FS CPI

MC CPI: C04-A08C2; C04-A10G; C04-B04M; C05-A01; C05-B02A4; C05-C05; C05-C06; C10-B02J; C14-T

L44 ANSWER 21 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2006-660002 [68] WPIX Full-text

CR 2004-053175

DNC C2006-202071 [68]

TI Formulation (I), useful to inhibit fungal and microbial growth on plants, comprises processed Morinda citrifolia product

DC C05

IN AFA K P; BING-NAN Z; CLAUDE J J; FUMIYUKI I; GERSON S; ISAMI F; JANSEN C G; JENSEN C; JENSEN C J; JOHN J W; PALU A K; SCOTT G; STEPHEN P S; STORY S; STORY S P; WADSWORTH J W; ZHOU B; SU C

PA (GERS-I) GERSON S; (ISAM-I) ISAMI F; (MORI-N) MORINDA INC; (PALU-I) PALU A K; (WADS-I) WADSWORTH J W; (ZHOU-I) ZHOU B; (TAHI-N) TAHITIAN NONI INT INC

CYC 112

PI WO 2006104892 A2 20061005 (200668)* EN 43[0]
EP 1863508 A2 20071212 (200803) EN
AU 2006229970 A1 20061005 (200810) EN
IN 2007DN07924 P1 20071130 (200812) EN
JP 2008534595 W 20080828 (200858) JA 34
CN 101312738 A 20081126 (200920) ZH
MX 2007011918 A1 20080201 (200925) ES

ADT WO 2006104892 A2 WO 2006-US10798 20060324; AU 2006229970 A1 AU 2006-229970 20060324; CN 101312738 A CN 2006-80010513 20060324; EP 1863508 A2 EP 2006-739533 20060324; EP 1863508 A2 PCT Application WO 2006-US10798 20060324; IN 2007DN07924 P1 PCT Application WO 2006-US10798 20060324; JP 2008534595 W PCT Application WO 2006-US10798 20060324; CN 101312738 A PCT Application WO 2006-US10798 20060324; IN 2007DN07924 P1 IN 2007-DN7924 20071015; JP 2008534595 W JP 2008-504194 20060324; MX 2007011918 A1 PCT Application WO 2006-US10798 20060324; MX 2007011918 A1 MX 2007-11918 20070926

FDT EP 1863508 A2 Based on WO 2006104892 A; AU 2006229970 A1 Based on WO 2006104892 A; JP 2008534595 W Based on WO 2006104892 A; CN 101312738 A Based on WO 2006104892 A; MX 2007011918 A1 Based on WO 2006104892 A

PRAI US 2005-91051 20050328

IPCI A01N0025-02 [I,A]; A01N0025-02 [I,C]; A01N0065-00 [I,A]; A01N0065-00 [I,C]; A01P0003-00 [I,A]; A01P0003-00 [I,C]; A61K0031-352 [I,C]; A61K0031-353 [I,A]; A61K0031-7042 [I,C]; A61K0031-7048 [I,A]; A61K0036-00 [I,A]; A61K0036-00 [I,C]; A61K0036-00 [I,A]; A61K0036-00 [I,A]; A61K0036-00 [I,C]; A61K0036-185 [I,C]; A61K0036-185 [I,C]; A61K0036-746 [I,A]; A61K0036-746 [I,A]; A61K0036-746 [I,A]; C05G0003-02 [I,A]; C05G0003-02 [I,C]

FCL A01N0025-02; A01N0065-00 110; A01N0065-00 A; A01P0003-00; C05G0003-02

FTRM 4H011; 4H061; 4H011/AA01; 4H061/AA01; 4H011/BA01; 4H061/BB01; 4H061/BB10; 4H061/BB11; 4H061/BB15; 4H061/BB21; 4H011/BB22; 4H061/BB51; 4H011/BC18; 4H061/CC32; 4H061/CC35; 4H061/CC36; 4H061/CC38; 4H061/CC41; 4H061/CC42; 4H061/CC47; 4H011/DA13; 4H011/DC05; 4H011/DD03; 4H061/EE42; 4H061/EE46; 4H061/EE64; 4H061/FF02; 4H061/FF05; 4H061/FF07; 4H061/FF08; 4H061/GG21; 4H061/GG57; 4H061/JJ04; 4H061/LL26

AB WO 2006104892 A2 UPAB: 20090401

NOVELTY - Formulation (I), for inhibiting fungal and microbial growth on plants, comprises: processed Morinda citrifolia product (0.01-99.99 weight%).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method, for inhibiting fungal and microbial activity on plants, comprising exposing the plant to (I),

ACTIVITY - Plant Antifungal; Antibacterial.

MECHANISM OF ACTION - None given.

USE - (I) is useful to inhibit fungal and microbial growth on plants (claimed).

The ability of (I) to inhibit fungal and microbial growth was tested in Escherichia coli. The result showed that mean inhibitory concentration of (I) was 250.

ADVANTAGE - (I) is used in agricultural practice to increases crop yields and quality of food produced. (I) maintains the freshness of the crop after harvest. (I) is eco-friendly, effective as plant growth promotion agent, soil improvement agent, bactericide and insecticide agent, disease and harmful insect prevention agent and is suitable for organic farming.

TECH AGRICULTURE - Preferred Process: The step of exposing plant material (fruits, vegetables, leafy vegetables, root vegetables, grains, flower

or bulbs) to (I) is carried out by any one of the method: spraying or irrigating (I) in the soil before planting; spraying or irrigating (I) in the soil during plant growth; coating the plant during cutting, dividing or re-planting the plant; coating seed or bulb during planting; coating wilting flowers and shrubs; dispersing on water grown plant; coating plants infected with bacteria or virus; coating cut flowers after harvest; or coating crop and flower after harvest. The plant is repeatedly exposed until all harmful fungi and microbials and related effects are ameliorated. Preferred Composition: (I) further comprises: fertilizer component (ammonium sulfate, urea, potassium, nitrogen and ammonium chloride, chicken manure, cow manure, guano, worm castings, insect manure, saw dust, rice bran, garlic oil, fish oil, vermiculite, montmorillonite, active carbon, charcoal, diatomite, talc, alfalfa meal and pellets, nitrogen, phosphorus, potassium, dried shredded remains of sugar beets, corn gluten, cottonseed meal, extracts or pulverized parts of several kelp or algae, soybean meal, animal processing by-products, blood meal, bonemeal, compost or fish by products); Quercetin; and Rutin (0.1-10), as an additional active ingredient that synergistically works with the Quercetin to inhibit the fungal and microbial growth. (I) comprises Morinda citrifolia n-hexane fraction (.01-10 wt.%).

Preferred Components: (I) is comprised of an extract (fruit, stem, seed, pericarp, root bark, leaves and/or root of Morinda citrifolia), where the extracts are diluted by a factor of 1-10000 times (in weight) with water, before or during application. (I) is made into liquid, granule, powder or paste agent with appropriate carrier materials. (I) is dissolved or dispersed in water. The Morinda citrifolia fraction comprises a Morinda citrifolia Cl2Cl2, ethylacetate and n-butanol fraction. The processed Morinda citrifolia product is processed Morinda citrifolia fruit juice, processed Morinda citrifolia puree juice, processed Morinda citrifolia dietary fiber, processed Morinda citrifolia oil, processed Morinda citrifolia fruit juice concentrate, processed Morinda citrifolia puree juice concentrate, processed Morinda citrifolia leaves, processed Morinda citrifolia roots, processed Morinda citrifolia root bark, processed Morinda citrifolia stems, processed Morinda citrifolia seeds or processed Morinda citrifolia oil extract.

ABEX EXAMPLE - Typical composition further comprises (wt.%): Morinda citrifolia fruit juice (20-90.8); water (0.1-50); and fertilizer (0.1-30).

FS CPI

MC CPI: C04-A08; C04-A09; C04-A10; C05-A01A; C05-A03A2; C05-B02A3; C05-C01; C05-C03; C05-C06; C06-A01; C06-D05; C10-A13C; C10-C04E5; C14-A01; C14-A06; C14-S09; C14-T; C14-Y

L44 ANSWER 22 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2005-686043 [71] WPIX Full-text

DNC C2005-209200 [71]

DNN N2005-562755 [71]

TI Culturing Zostera, in aseptic condition, involves culturing sterilized tissue containing growing region of Zostera, and generating Zostera

DC C06; D13; D16; P13

IN HASHIZUME F; YAMAMOTO Y

PA (MIEK-N) MIE KEN

CYC 1

PI JP 2005278496 A 20051013 (200571)* JA 10[4]

ADT JP 2005278496 A JP 2004-97414 20040330

PRAI JP 2004-97414 20040330

IPCR A01G0001-00 [I,A]; A01G0001-00 [I,C]; A01G0007-00

[I,A]; A01G0007-00 [I,C]; A01H0004-00 [I,A]; A01H0004-00 [I,C]; A01H0005-00 [I,A]; A01H0005-00 [I,C]
FCL A01G0001-00 301 Z; A01G0007-00 601 Z; A01H0004-00; A01H0005-00 Z
FTRM 2B022; 2B030; 2B030/AA07; 2B030/AB03; 2B022/AB20; 2B030/AD07; 2B030/CA28; 2B030/CB02; 2B030/CD07; 2B030/CD09; 2B030/CD15
AB JP 2005278496 A UPAB: 20051223
NOVELTY - Culturing (M1) Zostera, in aseptic condition, comprising culturing sterilized tissue containing growing region of Zostera, and generating Zostera, is new.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for Zostera produced by (M1).
USE - (M1) is useful for culturing Zostera (claimed), which is useful as food for small animals such as width shrimps, network file fish, a brown rock fish, a sea bream and a skeleton shrimp, for protecting marine environment by absorbing the phosphorus which is the causative agent of euthrophication.
ADVANTAGE - (M1) provides high uniform germination, and can produce superior variety of Zostera.
DESCRIPTION OF DRAWINGS - The figure shows procedure of an aseptic culture method of Zostera. (Drawing includes non-English language text).
TECH BIOTECHNOLOGY - Preferred Method: (M1) involves removing stalk tissue from Zostera, and eliminating microbes by washing procedure. (M1) involves growing the seed of Zostera after removing the microbes, and generating hypocotyls containing growing region of zostera seedling in an aseptic condition. The cultivation is performed in a synthetic seawater culture medium containing activated charcoal. The cultivation step is performed by adding an antimicrobial agent. The Zostera is extracted from culture medium at temperature of 4-15 degreesC.
ABEX EXAMPLE - No relevant example is given.
FS CPI; GMPI
MC CPI: C04-A08; C04-F08; D03-G04; D05-H08

L44 ANSWER 23 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 2006-323250 [34] WPIX Full-text
DNC C2006-107126 [34]
TI Live micro-organism based preparation used for soil improvement - deposited on charcoal made from animal bones, rich in phosphorus
DC C04; P13
IN SOMEUS E
PA (SOME-I) SOMEUS E
CYC 1
PI HU 2004001262 A1 20051128 (200634)* HU 1[0]
ADT HU 2004001262 A1 HU 2004-1262 20040623
PRAI HU 2004-1262 20040623
IPCR A01G0001-04 [I,A]; A01G0001-04 [I,C]
AB HU 200401262 A1 UPAB: 20060526
NOVELTY - The invention relates to microbial preparation containing microbes on a solid carrier, advantageously to supply natural phosphorus for plants, for biological defense against pathogenic microorganisms of soil, for biological decomposition of soil contaminants, for enhancing life in the soil and for improving the fertility of the soil in such a way that its carrier is animal charcoal containing phosphorus, having grain size from 0.001 to 10 mm, macro porous structure in the range of 10 to 60000 nm and specific surface of 1 - 500 m2/g and biologically active microorganisms living in the soil are grown onto both external and internal surfaces of grains. The invention relates also to a process for production and usage of the microbial preparation in such a way that the carrier material is produced from animal bones by a carbonization process above.

FS CPI; GMPI
MC CPI: C04-F01; C05-B02A3; C05-C06; C14-A01; C14-T01; C14-T04; C14-U02

L44 ANSWER 24 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 2004-740970 [73] WPIX Full-text
DNC C2004-260949 [73]
TI Bio-pesticide useful as fertilizer for preventing plant diseases, contains non-pathogenic microbes with respect to plants supported on porous material containing granular particles and having specific pore diameter
DC C05
IN ITO H; KURODA K; SENOO H; TOMIKAWA A; YAMAMOTO S
PA (ISHT-C) ISHIZUKA GLASS KK; (MIEK-N) MIE KEN
CYC 1
PI JP 2004292320 A 20041021 (200473)* JA 24[3]
ADT JP 2004292320 A JP 2003-83108 20030325
PRAI JP 2003-83108 20030325
IPCR A01N0025-08 [I,A]; A01N0025-08 [I,C]; A01N0025-22 [I,A]; A01N0025-22 [I,C]; A01N0063-00 [I,A]; A01N0063-00 [I,C]
FCL A01N0025-08; A01N0025-22; A01N0063-00 F
FTRM 4H011; 4H011/AA01; 4H011/AA03; 4H011/BA01; 4H011/BA04; 4H011/BB21; 4H011/BC18; 4H011/BC20; 4H011/DA02; 4H011/DA03
AB JP 2004292320 A UPAB: 20050707
NOVELTY - A bio-pesticide contains non-pathogenic microbes with respect to plants supported on porous material containing granular particles and having pore diameter of 2-20 microm.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for manufacture of bio-pesticide, which involves processing porous material having pore diameter of 2-20 microm, separately processing non-pathogenic microbes with respect to plants and adhering processed non-pathogenic microbes on granulated porous material.

ACTIVITY - Pesticide; Fertilizer.

Juvenile strawberry seedlings suffering from chlorosis caused by Fusarium (FERM P-19254) were cultivated in soil material containing the bio-pesticide. The pathopoiesis degree of the seedlings was investigated after two months. The results showed that the bio-pesticide treated soil effectively had excellent pesticidal activity, against growth of pathogenic Fusarium (FERM P-19254).

MECHANISM OF ACTION - None given.

USE - As fertilizer for preventing plant diseases.

ADVANTAGE - The bio-pesticide exhibits excellent pesticidal activity for prolonged period, effectively protects plant from various diseases and is eco-friendly in nature. The bio-pesticide is manufactured easily and has excellent time dependent stability. The bio-pesticides effectively recycles plant waste materials and has excellent water retentivity.

TECH AGRICULTURE - Preferred Composition: The bio-pesticide further contains mineral microparticles.
Preferred Properties: The porous grains in the bio-pesticide formed using water-soluble polymeric material has particle size of 1-5 mm and relative bulk density of 0.1-1.5 g/ml.
INORGANIC CHEMISTRY - Preferred Material: The porous material contains carbonized, incinerated or heat processed plant waste material, preferably charcoal or incinerated ash from plant lees containing 20% or more of inorganic phosphorous pentoxide component. The plant material is blended with pH regulator.
BIOLOGY - Preferred Microbe: The non-pathogenic microbes belongs to Fusarium of strawberry.
ORGANIC CHEMISTRY - Preferred Method: The porous particles are granulated, obtained granules are dried at 50degreesC or less and sterilized. The non-pathogenic microbes are blended with

binder and then adhered on the sterilized porous particles.

ABEX EXAMPLE - Incinerated ash (in weight parts) (10) containing zeolite or silica powder was heat processed with stained lees (90) obtained from alcohol brewing of maize. Ammonium sulfate (1) and carboxy methylcellulose solution were added to the above blend and granulated at 80degreesC for 24 hours. The obtained granules were sifted to particle size of 2-2.8 mm, dried and heat pasteurized at 121degreesC for 20 minutes. Non-pathogenic microbes belonging to Fusarium (FERM P-19254) of strawberry were cultivated in V-8 juice, sprinkled over the sterilized granules and cultivated for 2 weeks at 30degreesC, to obtain a bio-pesticide. The bio-pesticide when evaluated had excellent preservability and storage stability.

FS CPI

MC CPI: C04-D02; C14-B01; C14-T

L44 ANSWER 25 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2002-493744 [53] WPIX Full-text

DNC C2002-140429 [53]

DNN N2002-390422 [53]

TI Waste water treatment apparatus contains seedling plants, purification tank and waste water treatment tank which propagates algae control and recovery of nitrogen and phosphorus by plant aquatic root

DC C04; D15; P13; P14

IN FUJIMOTO H

PA (FUJI-I) FUJIMOTO H

CYC 1

PI JP 2002102884 A 20020409 (200253)* JA 5[5]

ADT JP 2002102884 A JP 2000-336708 20000929

PRAI JP 2000-336708 20000929

IPCR A01G0031-00 [I,A]; A01G0031-00 [I,C]; A01K0061-00 [I,A]; A01K0061-00 [I,C]; A01K0063-00 [I,A]; A01K0063-00 [I,C]; C02F0001-62 [I,A]; C02F0001-62 [I,C]; C02F0003-08 [I,A]; C02F0003-08 [I,C]; C02F0003-32 [I,A]; C02F0003-32 [I,C]

FCL A01G0031-00 601 Z; A01G0031-00 604; A01K0061-00 A; A01K0063-00 Z; C02F0001-62 Z; C02F0003-08 Z; C02F0003-32 (ZAB)

FTRM 2B104; 2B314; 4D003; 4D038; 4D040; 2B104/AA01; 4D003/AA06; 4D038/AA08; 4D003/AB11; 4D038/AB63; 4D038/AB90; 4D038/BA01; 4D003/BA02; 4D038/BB19; 4D003/CA07; 4D040/CC01; 4D040/CC02; 4D040/CC05; 4D040/CC07; 4D040/CC11; 4D003/EA22; 4D003/EA23; 2B314/MA58; 2B314/MA62; 2B314/NC38; 2B314/ND05; 2B314/ND30; 2B314/PC18; 2B314/PC19

AB JP 2002102884 A UPAB: 20050526

NOVELTY - Waste water treatment apparatus contains seedling plants in network for plant affixed by floating in purification tank to perform treatment in waste water tank which performs watertight processing. Waste water treatment tank propagates algae control by limiting incident conditions to aqua culture collection and recovery of nitrogen and phosphorus by plant aquatic root which grow thick in water.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the method to make the portion on which insertion in waste waters, such as U-shaped groove. A partition plate is attached in U-shaped groove and water collects to perform the aquaculture of vegetation, such as vase by floating component for plant and to perform waste water treatment.

USE - For waste water treatment from roof greening, such as home drain, farming and industry waste water and building bill, and apartment etc, or vegetable gardenization.

ADVANTAGE - The tank enables a waste water is rich in fertilizer property chiefly from a vegetable garden unit, and contains nitrogen, the phosphorus, aquacultures of waste water treatment, vegetable, and vases is performed simultaneously. A throughput reduces by performing concentration by ecosystem, before performing physicochemical process in the waste water

treatment which contains an environmental toxicity substance in dilution, and large cost reduction. The tank potentiates circulation recycling of the fertilizer/water of the soil culture plant remainder by combining with roof greening/vegetable gardening. Supply of fresh foodstuff and food residue is performed in city space. The food circulation system of a closed cycle is provided. Since the floating component for plant is used, the influence by water level variation is not received.

DESCRIPTION OF DRAWINGS - The figure shows a conceptual diagram of floating structure for plant arranged in the ecosystem.

TECH INORGANIC CHEMISTRY - Preferred Process: Gravel, charcoal, a shellfish shell, etc. are put into the recess portion of the network of floating component and the function of both of support materials of a microorganism carrier and a seedling is performed. The waste water tank further contains oxygen supply component to plant aquatic root region and the microorganism group is utilized.

FS CPI; GMPI

MC CPI: C04-A08; C05-B02A; C05-C03; C11-B; D04-A01J

L44 ANSWER 26 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 2000-013398 [01] WPIX Full-text

DNC C2000-002622 [01]

TI Liquid fertilizer having superior properties for use in home vegetable and ornamental gardens, farms and vineyards

DC C04

IN CHAPPLE G L

PA (NUTR-N) NUTRASOIL AUSTRALIA PTY LTD

CYC 84

PI WO 9955644 A1 19991104 (200001)* EN 24[0]
AU 9933997 A 19991116 (200015) EN

ADT WO 9955644 A1 WO 1999-AU311 19990427; AU 9933997 A AU 1999-33997 19990427

FDT AU 9933997 A Based on WO 9955644 A

PRAI AU 1998-7521 19981207
AU 1998-3156 19980424

IPCR C05F0001-00 [I,A]; C05F0001-00 [I,C]; C05F0015-00 [I,A]; C05F0015-00 [I,C]; C05F0017-00 [I,A]; C05F0017-00 [I,C]; C05F0003-00 [I,A]; C05F0003-00 [I,C]; C05F0003-06 [I,A]; C05F0007-00 [I,A]; C05F0007-00 [I,C]; C05F0007-02 [I,A]; C05F0009-00 [I,A]; C05F0009-00 [I,C]; C05G0003-00 [I,A]; C05G0003-00 [I,C]; C05G0005-00 [I,A]; C05G0005-00 [I,C]

EPC C05F0001-00+F7/00+F5/00+F7/00; C05F0017-00B; C05G0003-00B10

AB WO 1999055644 A1 UPAB: 20050705

NOVELTY - A liquid fertilizer is produced by combining worm castings with liquid biological waste to form a fertilizer mixture which is separated into a particulate fraction and a liquid fraction and then collecting the liquid fraction for use as liquid fertilizer.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a liquid fertilizer with a bacterial count of at least 2.5 x 106 colony forming units per milliliter (cfu/ml) and a carbon to nitrogen (C/N) ratio of at least 7:1; and

(2) an apparatus for producing a liquid fertilizer with two mixing containers, liquid waste supply conduit, screener, circulation conduit(s) which interconnect containers, a mixer associated with the circulation conduits and collection conduit(s).In use, the liquid biological waste is supplied to the mixing container via the liquid waste supply conduit and the worm castings are supplied to the mixing container via the screener. The mixer combines the liquid biological waste and the worm castings to form a fertilizer mixture which is circulated between the mixing containers. The

collection conduit(s) collect(s) the liquid fertilizer from the mixing container

ACTIVITY - Microbial.

MECHANISM OF ACTION - None given.

USE - The liquid fertilizer is used in home vegetable and ornamental gardens, farms, vineyards, urban parks and gardens, plant nurseries, herbariums etc..

ADVANTAGE - Liquid fertilizers provide nutrients and microbes which are quickly released into the soil and hence are readily available to plants. They can be applied by spraying or irrigation and are readily miscible with water achieving the desired concentration.

TECH ORGANIC CHEMISTRY - Preferred Range: The liquid biological waste has a Biochemical Oxygen Demand (BOD5) range of 100-50000 mg/L.
Preferred Biological Waste: The liquid biological waste is a domestic wastewater, sewage grease-trap, brewery, dairy, food processing, food manufacturing, starch, or piggery or abattoir waste.
Preferred Bacterial Count: The liquid fertilizer has a total bacterial count of at least 2.5 x 107 cfu/ml, 1.5 x 108 cfu/ml or preferably 4.5 x 108 cfu/ml.
AGRICULTURE - Preferred Method: The worm casting and the liquid biological waste are combined at a ratio greater than 2:1 (v/w) or less than 60:1 (v/w) (preferably 5:2 (v/w)). Additional materials are included to form the fertilizer mixture.
Preferred Additional Material: The additional material is solid paper mill waste, tallow, chicken manure, pozzolanic ash, charcoal , sawdust, clays such as bentonite, zeolite, kaolinite, magnesium scrap or dross, gums or pentosans.
INORGANIC CHEMISTRY - Preferred C/N Ratio: The liquid fertilizer has a C/N ratio of at least 10:1, 13:1 or preferably 20:1.
Preferred Nutrients: The liquid fertilizer has nutrient(s) from calcium (as Ca2+) at 19 g/L, phosphorus (as phosphate) at 1.4 g/L, potassium (as K+) at 0.7 g/L, nitrates at 1.3 g/L, ammonia at 1.0 g/L, nitrogen (as protein) at 4.2 g/L, total nitrogen at 6.5 g/L, iron (as Fe2+ and/or Fe3+) at 1.7 g/L, zinc (as Zn2+) at 0.6 g/L, magnesium (as Mg2+) at 0.5 g/L or sulfur (as sulfate) at 6.8 g/L.

ABEX ADMINISTRATION - The liquid fertilizer is applied by spraying and irrigation.
EXAMPLE - The liquid fertilizer was assessed in terms of its relative efficacy compared to two commercially available fertilizers. Fertilizer A is an inorganic fertilizer (standard NPK type), Fertilizer B is an organic product with 27 different microbes and Fertilizer C is the liquid fertilizer. The wheat plants treated with Fertilizer C were taller by an average of 8% than those treated with the other fertilizers but Fertilizer B encouraged growth of longer roots.
Fertilizer C outperformed the other fertilizers with respect to head mass through greatly-increased kernel mass (9.7 mg). This increase in wheat kernel yield provided by Fertilizer C was approximately 31% compared to Fertilizer A and the yield was achieved without the risk of soil damage.

FS CPI

MC CPI: C04-A09; C04-A10; C04-B04B; C04-B04H; C04-B04L; C04-B04M; C04-C02B; C04-F10; C04-N02; C05-A01A; C05-A01B; C05-A03A; C05-C02; C05-C03; C05-C05; C12-M07; C14-T04

L44 ANSWER 27 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

AN 1993-211218 [26] WPIX Full-text

DNC C1993-093566 [26]

DNN N1993-162431 [26]
TI Production of root-stock for grafting - by culturing nursery stocks with infective symbiotic microorganism, particularly medium with carbon@ base
DC C06; D16; P13
IN ISHIDA Y; KUBO S; MURAKAMI Y
PA (OSAG-C) OSAKA GAS CO LTD
CYC 1
PI JP 05137461 A 19930601 (199326)* JA 6[0]
ADT JP 05137461 A JP 1991-307642 19911122
PRAI JP 1991-307642 19911122
IPCR A01G0001-06 [I,A]; A01G0001-06 [I,C]; A01G0007-00 [I,A]; A01G0007-00 [I,C]
FCL A01G0001-06 Z; A01G0007-00 605 A
FTRM 2B022; 2B022/AB15; 2B022/AB17; 2B022/AB20; 2B022/BA02; 2B022/BA07; 2B022/BA24; 2B022/DA19
AB JP 05137461 A UPAB: 20050509
Production is by culturing nursery stocks with infective symbiotic microorganisms, partic. medium added with carbon base having pores of 0.5-500 micro m with pore vol.of 0.05-1.5 ml/g up to 30 weight% to dried soil. Also claimed addition of sparingly soluble phosphorous salt up to 20% to the dried soil to give apparent specific gravity of 0.05-0.8 and addition of water absorptive resin to the soil for culture. Spores of symbiotic microorganisms, Vesicular arbuscular (VA) mycorrhizae (e.g. Gigaspora, Scutellospora, Glomus, Acaulospora. Sclerocystis and Entrophospora genera) are used 1-1,000, pref. 25-500 for one nursery stock. Carbon bases (e.g. active charcoal, coke and calcined husk) and sparingly soluble phosphorous salts (e.g.Ca, Fe, Na salts) are added about 1-20, pref. 1-10% to the soil, respectively. Furthermore, water absorptive resinous materials (e.g. cellulose, polymers and starch derivs.) are added at 0.03-2.5, pref. 0.10.7 weight% to dried soil. Thus, the resultant soil is used to culture rootstock.
USE/ADVANTAGE - Infection with symbiotic microorganisms improves resistant properties to pathogenic microorganisms and provides desirable rootstocks for grafting, and addition of water absorptive resin provides sufficient moisture to the roots of nursery stocks. - In an example, artificial culture bed, soil was placed and a suspension of 100 spores/seed of Gigaspora margarita was dispersed. Nursery stocks of trifoliate orange, Poncirus trifolia were cultures for two years. Budwoods of mandarin were grafted to the obtained rootstocks and cultured for one year. Six out of 100 trees were dead, while 19 out of 100 were dead in a control gp
FS CPI; GMPI
MC CPI: C04-B02B; C05-B02A5; C12-P08; D05-H08

L44 ANSWER 28 OF 33 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
AN 1993-211217 [26] WPIX Full-text
DNC C1993-093565 [26]
DNN N1993-162430 [26]
TI Production of trees for transplantation - by culturing nursery stocks with infective symbiotic microorganisms to improve disease and drought resistance
DC C06; D16; P13
IN ISHIDA Y; KUBO S; MURAKAMI Y
PA (OSAG-C) OSAKA GAS CO LTD
CYC 1
PI JP 05137460 A 19930601 (199326)* JA 5
ADT JP 05137460 A JP 1991-307641 19911122
PRAI JP 1991-307641 19911122
IPCR A01G0001-00 [I,A]; A01G0001-00 [I,C]; A01G0007-00 [I,A]; A01G0007-00 [I,C]
FCL A01G0001-00 303 B; A01G0007-00 605 A; A01G0007-00 605 Z

FTRM 2B022; 2B022/BA01; 2B022/BA02; 2B022/BA07; 2B022/BA24
AB JP 05137460 A UPAB: 20050509
Production involves culturing nursery stocks with infective symbiotic microorganisms, partic. cystidium-dendrophysis, Ericaceae or ectotrophic mycorrhizae, in soil, partic. added with carbon base having pores of 0.5-500 microns with pore volume of 0.05-1.5 ml/g up to 30 weight% to dried soil. The addition comprises of sparingly soluble phosphorous salt up to 20% to the dried soil to give apparent specific gravity of 0.05-0.8 and the addition of water absorptive resin to the soil for culture. Pref spores of symbiotic microorganisms e.g. cystidium-dendrophysis, Orchidaceae, Ericaceae and ectotrophic vesicular arbuscular (VA) mycorrhiza and root nodules, pref. VA mycorrhizae (e.g. Glomus, Gigaspora, Acaulospora, Entrophospora, Sclerocystis and Scutellospora genera) are used 1-1,000 pref. 25-500 for one nursery stock. Carbon bases (e.g. active charcoal, coke and calcined husk) and sparingly soluble phosphorous salts (e.g. Ca, Fe, Na salts) are added 1-20% to the soil, respecitvely. Furthermore, water absorptive resinous materials (e.g. cellulose, polymers and starch derivs.) are added at 0.03-2.5, pref. 0.1-0.7 weight% to dried soil. Thus, the resultant treated soil is used to culture nursery stocks.
USE/ADVANTAGE - Infection with symbiotic microorganisms improves resistant properties to diseases and drought, and provides desirable nursery stocks. Culture in carbon base soil and addition of phosphor rich fertiliser accelerate the growth of roots and shorten the culture period. Addition of water absorptive resin provides sufficient moisture to the roots of nursery stocks.
FS CPI; GMPI
MC CPI: C04-B02B2; C05-B02A5; C12-P08; D05-H08

=> d 29-33 ibib abs ind

L44 ANSWER 29 OF 33 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2009) on STN DUPLICATE 6
ACCESSION NUMBER: 1999:78901 AGRICOLA Full-text
DOCUMENT NUMBER: IND22016264
TITLE: Nature of the interference mechanism of mugwort (Artemisia vulgaris).
AUTHOR(S): Inderjit; Foy, C.L.
CORPORATE SOURCE: Virginia Polytechnic Institute and State University, Blacksburg.
AVAILABILITY: DNAL (SB610.W39)
SOURCE: Weed technology : a journal of the Weed Science Society of America, Jan/Mar 1999. Vol. 13, No. 1. p. 176-182
Publisher: Lawrence, Kans. : The Weed Science Society of America.
CODEN: WETEE9; ISSN: 0890-037X
NOTE: Includes references
PUB. COUNTRY: Kansas; United States
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
CC F900 Weeds and Other Noxious plants; F600 Plant Physiology and Biochemistry; F300 Plant Ecology
CT application rates; artemisia vulgaris; bioavailability; charcoal; establishment; fertilization; growth; leachates; length; litter (plant); microbial flora; nitrogen; phenolic compounds; phosphorus; roots; seedling

growth; shoots; soil chemistry; soil flora; soil sterilization; trifolium pratense
RN 7723-14-0 (PHOSPHORUS)
7727-37-9 (NITROGEN)
16291-96-6 (CHARCOAL)
70514-62-4 (LEACHATES)

L44 ANSWER 30 OF 33 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2009) on STN
ACCESSION NUMBER: 2003:24343 AGRICOLA Full-text
DOCUMENT NUMBER: IND23317828
TITLE: Ameliorating physical and chemical properties of highly weathered soils in the tropics with charcoal - a review.
AUTHOR(S): Glaser, B.; Lehmann, J.; Zech, W.
AVAILABILITY: DNAL (QH84.8.B46)
SOURCE: Biology and fertility of soils, June 2002. Vol. 35, No. 4. p. 219-230
Publisher: Berlin, Germany : Springer-Verlag.
ISSN: 0178-2762
NOTE: Includes references
PUB. COUNTRY: West Berlin
DOCUMENT TYPE: Article; (SURVEY OF LITURATURE)
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English
AB Rapid turnover of organic matter leads to a low efficiency of organic fertilizers applied to increase and sequester C in soils of the humid tropics. Charcoal was reported to be responsible for high soil organic matter contents and soil fertility of anthropogenic soils (Terra Preta) found in central Amazonia. Therefore, we reviewed the available information about the physical and chemical properties of charcoal as affected by different combustion procedures, and the effects of its application in agricultural fields on nutrient retention and crop production. Higher nutrient retention and nutrient availability were found after charcoal additions to soil, related to higher exchange capacity, surface area and direct nutrient additions. Higher charring temperatures generally improved exchange properties and surface area of the charcoal. Additionally, charcoal is relatively recalcitrant and can therefore be used as a long-term sink for atmospheric CO2. Several aspects of a charcoal management system remain unclear, such as the role of microorganisms in oxidizing charcoal surfaces and releasing nutrients and the possibilities to improve charcoal properties during production under field conditions. Several research needs were identified, such as field testing of charcoal production in tropical agroecosystems, the investigation of surface properties of the carbonized materials in the soil environment, and the evaluation of the agronomic and economic effectiveness of soil management with charcoal.
CC J200 Soil Chemistry and Physics; J500 Soil Fertility, Fertilizers, and Manures; J700 Soil Cultivation and Cropping Systems; J100 Soil Biology
CT agricultural soils; base saturation; biological activity in soil; burning; calcium; cation exchange capacity; charcoal; literature reviews; magnesium; nitrogen; nutrient availability; phosphorus; potassium; shifting cultivation; soil conditioners; soil fertility; soil flora; soil organic matter; soil water content; soil water retention; sustainability; tropical soils; vegetation; weathering
ST carbon sequestration
GT amazonia
RN 7440-09-7 (POTASSIUM)

7440-44-0 (CARBON)
7440-70-2 (CALCIUM)
7723-14-0 (PHOSPHORUS)
7727-37-9 (NITROGEN)
16291-96-6 (CHARCOAL)

L44 ANSWER 31 OF 33 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 2009:312344 BIOSIS Full-text
DOCUMENT NUMBER: PREV200900313447
TITLE: Effects of Charcoal as Slow Release Nutrient Carrier on N-P-K Dynamics and Soil Microbial Population: Pot Experiments with Ferralsol Substrate.
AUTHOR(S): Steiner, C. [Reprint Author]; Garcia, M.; Zech, W.
CORPORATE SOURCE: Univ Georgia, Dept Biol and Agr Engn, Biorefining and Carbon Cycling Program, Driftmier Engn Ctr 620, Athens, GA 30602 USA
csteiner@engr.uga.edu
SOURCE: Woods, WI [Editor]; Teixeira, WG [Editor]; Lehmann, J [Editor]; Steiner, C [Editor]; WinklerPrins, A [Editor]; Rebellato, L [Editor]. (2009) pp. 325-338. Amazonian Dark Earths: Wim Sombroeks Vision. Publisher: SPRINGER, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS.
ISBN: 978-1-4020-9030-1(H).
DOCUMENT TYPE: Book; (Book Chapter)
LANGUAGE: English
ENTRY DATE: Entered STN: 20 May 2009
Last Updated on STN: 20 May 2009
CC Biochemistry studies - Minerals 10069
Nutrition - General studies, nutritional status and methods 13202
Agronomy - Miscellaneous and mixed crops 52502
Soil science - General and methods 52801
Soil science - Fertility and applied studies 52807
IT Major Concepts
Nutrition; Soil Science; Agrichemicals
IT Chemicals & Biochemicals
aluminum; phosphate; nutrient: nutrient; carbon; iron oxide; nitrogen: agrichemical, fertilizer; phosphorus: agrichemical, fertilizer; charcoal; potassium: agrichemical, fertilizer
IT Miscellaneous Descriptors
agroecosystem; population density; shifting cultivation; microbial biomass; conventional fertilization
GT Amazon Basin (South America, Neotropical region)
RN 7429-90-5 (aluminum)
14265-44-2 (phosphate)
7440-44-0 (carbon)
1345-25-1 (iron oxide)
7727-37-9 (nitrogen)
7723-14-0 (phosphorus)
7440-09-7 (potassium)

L44 ANSWER 32 OF 33 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1999:234988 BIOSIS Full-text
DOCUMENT NUMBER: PREV199900234988
TITLE: Ecological aspects of vesicular-arbuscular mycorrhizal fungi in satsuma mandarin grown in plastic green houses and fields.

AUTHOR(S): Ishii, Takaaki [Reprint author]; Matsumoto, Isao; Shrestha, Yogesh Hari; Kadoya, Kazuomi
CORPORATE SOURCE: Faculty of Education, Ehime University, Matsuyama, Ehime, 790-8577, Japan
SOURCE: Journal of the Japanese Society for Horticultural Science, (March, 1999) Vol. 68, No. 2, pp. 219-227. print.
CODEN: EGKZA9. ISSN: 0013-7626.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 17 Jun 1999
Last Updated on STN: 17 Jun 1999

AB Soils and roots of satsuma mandarin in 23 orchards in Ehime Prefecture, Japan, were surveyed for the presence of vesicular-arbuscular mycorrhizal (VAM) spores and infection. The number of VAM spores in 25g soil ranged between 160-3471, and in some orchards the percentage of VAM infection in the root was very low. A higher percentage of VAM infection was observed in orchards where the sod culture system was introduced and charcoal was applied, and in the plastic green houses where tree growth was vigorous. We observed that trees in orchards which produce the 'Hinomaru Brand' of satsuma mandarin, famous for its quality, also had a high rate of VAM infection. Proliferation of VAM fungi appeared to have been suppressed in orchards where considerable amounts of fertilizers were applied. The prolonged use of phosphorus (P) fertilizer resulting in over 50 ppm of residual PO43- in the soil caused low VAM infection in satsuma mandarin roots.

CC Horticulture - Tropical, subtropical fruits and plantation crops 53004
Soil microbiology - 40000
Plant physiology - Nutrition 51504
IT Major Concepts
Ecology (Environmental Sciences); Horticulture (Agriculture)
IT Chemicals & Biochemicals
phosphorus: fertilizer
IT Methods & Equipment
field cultures: horticultural method; plastic greenhouse cultures: horticultural method
GT Japan (Palearctic region)
ORGN Classifier
Phycomycetes 15900
Super Taxa
Fungi; Plantae
Organism Name
vesicular-arbuscular mycorrhizae: symbiont
Taxa Notes
Fungi, Microorganisms, Nonvascular Plants, Plants
ORGN Classifier
Rutaceae 26685
Super Taxa
Dicotyledones; Angiospermae; Spermatophyta; Plantae
Organism Name
satsuma mandarin: Hinomaru Brand, tropical/subtropical fruit crop
Taxa Notes
Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants
RN 7723-14-0 (phosphorus)

L44 ANSWER 33 OF 33 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1994:82326 BIOSIS Full-text
DOCUMENT NUMBER: PREV199497095326
TITLE: Effect of agronomic practices on the growth and spread

of charcoal rot pathogen (Macrophomina phaseolina) infecting maize.

AUTHOR(S): Singh, R. D. N.; Kaiser, S. A. K. M.
CORPORATE SOURCE: Dep. Plant Pathol., Fac. Agric., Bidhan Chandra Krishi Viswavidyalaya, Kalyani-741235, India

SOURCE: Crop Research (Hisar), (1993) Vol. 6, No. 3, pp. 499-508.
ISSN: 0970-4884.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 22 Feb 1994
Last Updated on STN: 23 Feb 1994

AB The rabi (winter) maize that has gained its popularity in the eastern parts of the country may be predisposed to charcoal rot disease (Macrophomina phaseolina (Tassi) Goid.) if proper agronomic practices are not followed by the farmers as has been revealed in the present study. Field experiments under the artificial epiphytotic condition on the Gangetic plains at Kalyani (23.5 degree N, 89 degree E), West Bengal, India showed that the disease incidence was favoured by planting in December, while early planting in November or late planting in January reduced the incidence. Disease severity gradually increased with increase in the plant density and a plant density above 50,000 ha-1 favoured the incidence. Disease incidence was maximum at a population of 70,000 ha-1, while it was minimum at 40,000 ha-1. Nitrogen alone or in combination with phosphorus and potassium, or with both significantly increased the disease severity, while both phosphorus and potassium reduced it. Disease incidence was highest when nitrogen was applied alone and it was lowest when phosphorus and potassium were applied in combination. There was a gradual increase in the disease severity with increase in the dose of nitrogen, and the maximum infection occurred at the highest dose of nitrogen @ 160 kg ha-1. In vitro study, however, showed that nitrogen alone significantly increased linear growth of the pathogen, while both phosphorus and potassium individually or in combination with nitrogen reduced it.

CC Ecology: environmental biology - Bioclimatology and biometeorology 07504
Ecology: environmental biology - Plant 07506
Biochemistry studies - Minerals 10069
Nutrition - Minerals 13206
Plant physiology - Nutrition 51504
Agronomy - Grain crops 52504
Phytopathology - Diseases caused by fungi 54502

IT Major Concepts
Agronomy (Agriculture); Climatology (Environmental Sciences); Ecology (Environmental Sciences); Infection; Nutrition

IT Chemicals & Biochemicals
NITROGEN; POTASSIUM; PHOSPHORUS

IT Miscellaneous Descriptors
DISEASE INCIDENCE; DISEASE SEVERITY; FERTILIZER; NITROGEN; PHOSPHORUS; PLANTING DATE; POTASSIUM

GT India (Asia, Oriental region)

ORGN Classifier
Fungi Imperfecti or Deuteromycetes 15500
Super Taxa
Fungi; Plantae
Organism Name
Macrophomina phaseolina
Taxa Notes
Fungi, Microorganisms, Nonvascular Plants, Plants

ORGN Classifier
Gramineae 25305
Super Taxa

Monocotyledones; Angiospermae; Spermatophyta; Plantae
Organism Name
Gramineae
Taxa Notes
Angiosperms, Monocots, Plants, Spermatophytes, Vascular Plants
RN 7727-37-9 (NITROGEN)
7440-09-7 (POTASSIUM)
7723-14-0 (PHOSPHORUS)

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=> d his nofile

     (FILE 'HOME' ENTERED AT 15:41:47 ON 16 OCT 2009)

     FILE 'HCAPLUS' ENTERED AT 15:42:03 ON 16 OCT 2009
L1             1 SEA SPE=ON  ABB=ON  PLU=ON  US20060243011/PN
L2               QUE SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR BLACK?)
                 OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
                 E CHARCOAL/CT
L3         22554 SEA SPE=ON  ABB=ON  PLU=ON  CHARCOAL+PFT,NT/CT
                 E  SOIL MICROORGANISM/CT
L4         11047 SEA SPE=ON  ABB=ON  PLU=ON  "SOIL MICROORGANISM"+PFT,NT/CT
L5            21 SEA SPE=ON  ABB=ON  PLU=ON  (L2 OR L3) AND L4
L6               QUE SPE=ON  ABB=ON  PLU=ON  MICROBE# OR MICROBIAL? OR
                 MICRO ORGANISM? OR MICROORGANISM?
L7            21 SEA SPE=ON  ABB=ON  PLU=ON  L5 AND L6
L8             1 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND L1
L9            16 SEA SPE=ON  ABB=ON  PLU=ON  L7 AND FERTILI?/SC,SX
L10          523 SEA SPE=ON  ABB=ON  PLU=ON  (L2 OR L3) AND L6
L11           48 SEA SPE=ON  ABB=ON  PLU=ON  L10 AND FERTILIZ?
L12           41 SEA SPE=ON  ABB=ON  PLU=ON  L11 AND FERTILIZ?/SC,SX
L13           54 SEA SPE=ON  ABB=ON  PLU=ON  L9 OR L12
L14            2 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND L13

     FILE 'REGISTRY' ENTERED AT 15:55:44 ON 16 OCT 2009
L15            1 SEA SPE=ON  ABB=ON  PLU=ON  7723-14-0/RN

     FILE 'HCAPLUS' ENTERED AT 15:55:53 ON 16 OCT 2009
L16       210571 SEA SPE=ON  ABB=ON  PLU=ON  L15
L17            7 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND (L16 OR PHOSPHORUS#)
L18          952 SEA SPE=ON  ABB=ON  PLU=ON  CHARCOAL? AND (L4 OR L6)
L19           28 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND (L16 OR PHOSPHORUS#)
L20           12 SEA SPE=ON  ABB=ON  PLU=ON  L19 AND FERTILIZ?/SC,SX
L21           12 SEA SPE=ON  ABB=ON  PLU=ON  L17 OR L14 OR L20
L22           30 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND (L16 OR PHOSPHORUS# OR
                 PHOSPHOROUS#)
L23            8 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND (L16 OR PHOSPHORUS# OR
                 PHOSPHOROUS#)
L24           30 SEA SPE=ON  ABB=ON  PLU=ON  (L22 OR L23)
L25           13 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND  FERTILIZ?/SC,SX
L26           17 SEA SPE=ON  ABB=ON  PLU=ON  L24 NOT L25
L27            9 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND FERTILIZ?
L28            7 SEA SPE=ON  ABB=ON  PLU=ON  L24 AND  AGR/RL
L29           15 SEA SPE=ON  ABB=ON  PLU=ON  L25 OR L27 OR L28

     FILE 'WPIX' ENTERED AT 16:00:11 ON 16 OCT 2009
L30          303 SEA SPE=ON  ABB=ON  PLU=ON  BONE(A)(CHARCOAL? OR BLACK?)
                 OR BONE(2A)(CHARCOAL? OR BLACK?) OR ANIMAL BLACK?
L31        23338 SEA SPE=ON  ABB=ON  PLU=ON  CHARCOAL?
L32          436 SEA SPE=ON  ABB=ON  PLU=ON  (L30 OR L31) AND (PHOSPHORUS#
                 OR PHOSPHOROUS#)
L33           42 SEA SPE=ON  ABB=ON  PLU=ON  L32 AND L6
L34           12 SEA SPE=ON  ABB=ON  PLU=ON  L33 AND FERTILIZ?
L35            1 SEA SPE=ON  ABB=ON  PLU=ON  US20060243011/PN
L36            5 SEA SPE=ON  ABB=ON  PLU=ON  L33 AND  A01G0001?/IPC
L37           17 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'AGRICOLA' ENTERED AT 16:03:21 ON 16 OCT 2009
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L38           2 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'JAPIO' ENTERED AT 16:03:49 ON 16 OCT 2009
L39           0 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'PASCAL' ENTERED AT 16:04:13 ON 16 OCT 2009
L40           0 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'SCISEARCH' ENTERED AT 16:04:46 ON 16 OCT 2009
L41           1 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'BIOSIS' ENTERED AT 16:04:59 ON 16 OCT 2009
L42           5 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36

     FILE 'BIOTECHNO' ENTERED AT 16:05:50 ON 16 OCT 2009
L43           0 SEA SPE=ON  ABB=ON  PLU=ON  L34 OR L36



     FILE 'HCAPLUS, WPIX, AGRICOLA, SCISEARCH, BIOSIS' ENTERED AT 16:09:30
     ON 16 OCT 2009
L44          33 DUP REM L29 L37 L38 L39 L40 L41 L42 L43 (7 DUPLICATES REMOV
                    ANSWERS '1-15' FROM FILE HCAPLUS
                    ANSWERS '16-28' FROM FILE WPIX
                    ANSWERS '29-30' FROM FILE AGRICOLA
                    ANSWERS '31-33' FROM FILE BIOSIS
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